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ABSTRACT

Fifteen papers from the University of South Africa's Conference on Distance Education are presented on the theory and practice of distance education. Titles and authors include: "Evaluation at a Distance" (Margalit Ganor); "Can the Tables Be Turned? Likelihood That Distance Teaching at University Can Be More Effective Than Attendance Teaching" (Pieter du Plessis); "Do Existent Definitions of Distance Education Allow for Analysis of Such a Provision in a Volunteer Organization?" (Lynette Douglas); "Elitism vs. Pragmatism: Scientific Approaches to Course Design" (A. D. Adey); "Distance Education: Preparing for the 21st Century" (F. van den Bogaerde); "The Effectiveness of Personalised Instruction in Distance Education: An Empirical Study" (Wilhelm Jordaan); "Access to the Original: The Potential of a University Art Collection in Distance Education" (Lucy Alexander); "An Experimental Model for Distance Teaching--A Case Study" (Herman Conradie); "Distance Teaching and Learning: Joyful Realization or Frustrated Expectation?" (J. J. Booyse): "Evaluating Academic Competence on the Tertiary Level within Half an Hour" (J. J. Roelofse); "Didactic Objectives in Distance Teaching" (Adriaan J. Smit); "The Problematics of Distance Education from a Tutor's Point of View" (Smit); "The Written Assignment--Teaching or Evaluating?" (Thinus Dreckmeyr); "Evaluation of Student Progress in Distance Education" (Johan P. Degenaar); and "The Training of Lecturers by UNISA" (W. J. du Plooy). (LB)

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PAPERS 1

ED293398

The theory and practice of distance education

DISTANCE EDUCATION IN SOUTHERN AFRICA: PREPARING FOR THE 21ST CENTURY

18 - 21 MAY 1987

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PREFACE

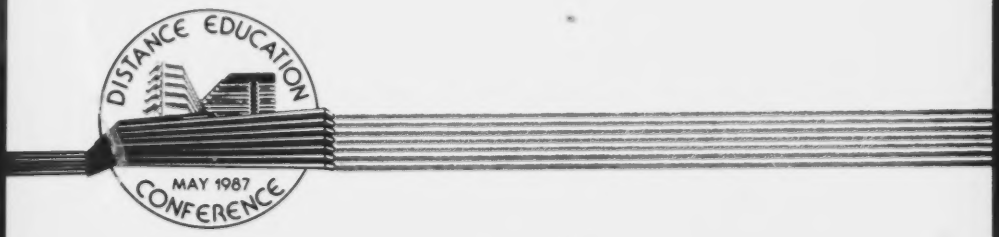
The conference papers to be presented at the University of South Africa's Conference on Distance Education are contained in a number of volumes for easy reference. The papers have been collected according to basic themes as follows:

The theory and practice of distance education	**Papers 1**
Issues in education and distance education	**Papers 2**
Media and technology in distance education	**Papers 3.1, 3.2**
Professional education and practical training at a distance	**Papers 4.1, 4.2**
Administration and student support in distance education	**Papers 5**
Systems and strategies in distance education	**Papers 6**

This is Volume 1 of the papers. The table of contents lists the papers in this volume in order of abstract numbers.

In the alphabetical index all participants' names, the abstract number of their paper, the session allocated and the volume in which the paper is published can be found. Not mentioned are papers that may be published in Volume 7 entitled "Late Submissions".

F. van den Bogaerde
CONFERENCE CHAIRMAN



KEY

ABSTRACTS

1000 SERIES — Participants from Africa and Abroad
2000 SERIES — Participants from southern Africa
3000 SERIES — Participants from the University of South Africa

3100 — Administrative and Professional
3200 — Faculty of Arts
3300 — Faculty of Education
3400 — Faculty of Economic and Management Sciences
3500 — Faculty of Law
3600 — Faculty of Science
3700 — Faculty of Theology

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PAPERS

1002*
EVALUATION AT A DISTANCE

Margalit Ganor
Everyman's University, Israel

This paper presents a model of an evaluation system, designed for a distance teaching institute where no direct feedback is obtained on the quality of the educational input and various people are involved in the teaching process.

Three main spheres of work have evolved:

1. Developing an infrastructure -
   a. The content of evaluation was defined within the framework of L. Guttman's "facet Approach" and implemented in "course maps" through "mapping sentnce" technique.
   b. A computerized system was planned for collecting and storing data.

2. Research and ongoing evaluation - manual and computer reports on central topics were devised and regularly disseminated to staff, followed by periodical surveys and research projects.

3. Counseling and guidance - workshops, individual and group counselling were offered to staff with reference to application of evaluation findings to their work.

So far, some of the benefits of such a model to the functioning of a distance teaching institute could be pointed out.

The mediatory role the evaluators assumed, and the diagnostic nature of the feedback supplied to each staff member assisted in decision making and contributed to improving verbal and written teaching processes.

"Facet approach" emerged as a comprehensive, constructive framework for instruction and evaluation. Specification of course content and its instructional objectives in "course maps" served as a basis for preparing a teaching syllabus, establishing a computerized bank of questions and assessing all course components.

EVALUATION AT A DISTANCE

Margalit Ganor
Everyman's University, Israel

The Nature and Purpose of Evaluation

Evaluation nowadays is becoming an integral part of the functioning of many educational systems. It is particularly essential to institutes based on distance teaching where no direct feedback is obtained on the quality of the educational input. This applies to the Open University of Israel - E.U. (Everyman's University).

Furthermore, while conventional teaching is usually carried out by one teacher, at E.U. various people are involved in the process: course-writers, course-coordinators and tutors. This makes the necessity for feedback which is complete and interrelated even more vital.

The nature of evaluation at E.U. has evolved from the specific structure of E.U. and its definition as a distance teaching system. The evaluation team has assumed a mediatory role, conceiving its main task as supplying each of the system components with direct feedback that might assist in decision-making and in improving verbal and written teaching processes. Thus, the team investigates work "in the field," interprets and assesses the information received, forwards it to the appropriate people and, finally, provides counsel and guidance regarding the process of integrating its findings into the system. Emphasis is placed on the acquisition of data of diagnostic value. Such data should describe the quality of the instructional component under investigation, while simultaneously providing guidelines regarding possible alterations and improvements.

Main Spheres of Work

The work of the evaluation team has evolved within three main spheres:

- the infrastructure for collecting and disseminating data
- research and evaluation
- counseling and guidance

1. Developing the Infrastructure for Collecting and Disseminating Data

Preparing the infrastructure consisted of defining the contents of evaluation and planning a system for collecting storing and disseminating data.

a. Defining the Content

The content of evaluation was defined within the framework of Facet Approach and implemented through Mapping Sentence Technique.[1]

To begin with, a comprehensive definition of goals for evaluation was formed with regard to the nature and function of E.U. as a whole. This was followed by a specific definition for the evaluation of the various study components.

The faceted definition presents simultaneously various types of items for evaluation. In it there are eight facets, each of which describes a possible classification of content – study components – and one facet describing the range of evaluation. Each type of items is called a construct and it includes one element of each, or of some, of the suggested facets.

---

mapping sentence about here

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b. Collecting and Storing Data

Data concerning the educational process is currently received from various departments and is stored in E.U.'s computer files. Additional information is collected for specific evaluation projects through tools specifically designed for that purpose.

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1. David Canter ed. Facet Theory, Approaches to Social Research, Spring, Springer-Verlag, N.Y., 1985

Computer Files

In order to facilitate specific processing of data according to evaluation needs, the team designed three computer files which are reconstituted every term. These comprise three categories of data:

- demographic file - background variables of a current term's students.
- academic background file - a transcript of all courses taken previously by each student.
- grade file - the marks achieved by each student on assignments and examinations in each course of a current term.

Evaluation Tools and Procedures

The distinctive tools and procedures which were devised by the team for collecting data to be used in the assessment process include: attitude-questionnaires, criteria for the evaluation of study units by academic advisors, criteria for observation of tutorials etc. The collection of data from diverse sources is aimed at ensuring an evaluation process which is as objective, unbiased, balanced and validated as possible.

2. Research and Evaluation

While the tasks performed by the Evaluation Team are widely varied, two general directions of emphasis are notable:

a. Current and Ongoing Evaluation

Here the guiding principle for the team is to supply the system with current feedback regarding central topics - in effect "to keep a finger on the pulse." To this end the following manual and computer reports were devised and regularly disseminated to the relevant parties:

- distribution of students in each course according to background variables and progress in studies.
- analysis of C.M.A. (computer marked assignments) results.
- analysis of T.M.A. (teacher marked assignments) results.
- summary report comparing students achievement in C.M.A's, T.M.A.'s and final examinations.

b. Surveys and Research

Research projects undertaken by the team deal mainly with the educational framework of E.U.:

- study components - the written text, the role of assignments in D.T., etc.
- teaching methods - individual tutoring, group tutorials etc.
- student population - perseverance and achievement of heterogeneous groups, graduates etc.
- teaching staff - tutors in D.T. - role perception, training, etc.

Projects vary in design and scope. They can be experimental or correlational, some refer to a specific course while others have a wide range with regard to topic, theoretical background, sample, research tools and data time span.

The criteria nature and timing of evaluation are determined in accordance with the objective of the project and in conjunction with the course team.

3. Counseling and Guidance

Considerable importance is attached by the team to didactic aspects of teaching at a distance. It aims to enhance the general awareness of the potential contribution of evaluation to the improvement of teaching. The following activities are undertaken:

- bringing the team's research findings to the knowledge of the people concerned at E.U. and assisting in the application of its findings to the system.
- conducting workshops and offering individual and group counseling (detailed topics hereby exemplified).

The Work of the Evaluation Team: Examples Relating to Study Components

1. Assignments and Final Examinations

The team deals with the theoretical and technical aspects of composing questions for teaching at a distance.
The aims and contents of a given course are re-defined in conjunction with the course team and are presented by Mapping Sentence Technique. This provides a sounder basis for the designing of various types of questions from the cognitive point of view and for ensuring coordination between the course material, the assignments and the exams.

Various "technical" aspects are also taken into account while preparing the testing-system: the optimal number of questions, proportion of optional and obligatory questions, phrasing and multiplechoice questions, etc.

Defining distinctly the substance and the cognitive tasks required of the students supplies criteria for assigning weights to the questions, for scoring and correcting them.

Following the theoretical preparatory stage, the team is involved in the more practical part of the process. It offers advice, conducts workshops and monitors achievement. To sum up field activity the team has developed a number of computer reports which would supply feedback on test validity and students achievement.

In the view of the large number of questions that must be written each semester, the systematic mapping of the course material as well as of examination particulars and the consequent analysis of the test results are now being utilized to prepare a computerized Bank of Questions.

2. Study Material

Evaluation of study material comprises the following aspects:

- didactic aspects: suitability of material for self-study, degree of difficulty, interest and clarity of texts, graphic presentation and audio-visual aids, etc.

- scientific aspects: a balanced presentation of varied scientific approaches. Updating of material, relevant bibliography and research studies, etc.

Nevertheless, these criteria are to some extent abstract. When evaluating study material it is essential to examine a "live course" in order to assess the effect it has upon students. Hence, data is periodically collected with regard to all course components and is available to course teams.

Demand is also made upon the data for academic reconsideration of courses. Each course is discussed in the appropriate Sub-Academic committee once every five years to decide whether to continue its teaching or to rewrite it. To enable this Sub-Committee to work efficiently and reach the right decisions the team has established a monitoring-research-evaluation system. It presents data with regard to the quality of study units and the way in which course objectives have been expressed in "active-teaching" - via assignments, examinations and tutorial meetings.

3. Tutoring

Tutoring is designed to establish a more direct teaching contact with the distant learner. It is carried out through tutorial meetings, individual counseling and correction of assignments. Evaluation of the role of tutoring addresses to the following aspects:

- the content and structure of tutorial meetings
- teaching strategy
- student-attendance at meetings
- individual tutoring
- marking assignments
- experiments with new ways of tutoring

Special evaluation procedures, based upon the teams' research findings, were developed in order to improve tutoring:
observation in tutorial meetings, tutor-diaries, videotaping of, tutorial meetings, double-checking of final examinations

The evaluation team conducts workshops attended by course-coordinators and tutors to discuss various aspects of tutoring such as the dynamics of meetings, marking and correcting assignments etc.

A MAPPING SENTENCE FOR THE EVALUATION OF STUDY COMPONENTS IN DISTANCE TEACHING

	A		B	
Referent (x)	a₁ student a₂ tutor a₃ course-coordinator a₄ course-writer a₅ other	expresses attitudes in	b₁ cognitive b₂ affective b₃ instrumental	modality

	C		D	
towards	c₁ study material c₂ audio-visual & other aids c₃ assignments and exams c₄ assignment-corrections c₅ tutorial meetings c₆ other c₇ all	regarding	d₁ presentation d₂ exercise d₃ clarification d₄ evaluation d₅ all	

	E		F		G	
of	e₁ subject matter e₂ scientific skills	taught in	f₁ individual f₂ group	study framework by means of	g₁ written g₂ oral g₃ other	language

attitudes range from – { very positive / to / very negative } towards study component, in the sense of its contribution to distance study

Referent (x) (A) expresses attitudes in modality (B) towards study component (c) regarding didactic aspect (D) of course material (E) taught in study framework (F) by means of languge (G) Range of attitudes from – very positive to very negative, in the sense of their contrivution to distance study.

CAN THE TABLES BE TURNED?
LIKELIHOOD THAT DISTANCE TEACHING AT UNIVERSITY CAN BE MORE EFFECTIVE THAN ATTENDANCE TEACHING

Pieter du Plessis
Vista University

This article states a number of hypotheses, and links these to arrive at a conclusion that may generally be considered most unlikely: From a purely academic point of view, university distance teaching may well be conducted more effectively than attendance teaching, not only in terms of finance, but in absolute terms. Naturally this applies largely to degrees in the humanities and social sciences.

Although the focus of the article is on university teaching, most of the arguments are also applicable to distance teaching in general and particularly to distance teaching at other institutions of tertiary education.

To start with, traditional attendance teaching, when viewed in its historical context, is part of Western culture. As such it can also be regarded as the natural form of university education.

Distance teaching evolved to serve as what may be termed the education of necessity. When this form of teaching is considered from the traditional point of view, it follows that the chief problem is that of finding a suitable substitute for the physical presence of lecturers.

Seen from the point of view of educational technology, the situation is somewhat different: The chief problem of distance education is to find an economical means of enabling all students to participate fully in the benefits of mass production offered by modern educational technology.

The approach taken here lies somewhere between these two points of view, and can be expressed as follows:

As regards the traditional view of distance teaching:

In contrast to the assumption that the physical presence of lecturers is the basic requirement for a sound teaching system, it should be pointed out that this is not always borne out by the experience of students.

We may illustrate this point as follows: Convincing students of the need to attend lectures has been a perennial problem in traditional teaching. There has even been some argument among respected educationists that, if students were given complete sets of notes, they would not attend lectures in the subjects concerned. This implies that

- good notes could conceivably make lecturers redundant, and
- what happens during contact sessions has little, or only a very remote, bearing on examination requirements.

Lecturers' time is costly, and generally constitutes the single largest item of expense in the budgets of attendance-teaching institutions. The presence of lecturers, whether during lectures, group discussions or personal consultation, should be viewed as one of the most important learning opportunities available to students and should be exploited with care and maximum efficiency.

Regarding the second view, that of educational technology:

Study guides (or study manuals) and textbooks, the major teaching/learning instruments of the correspondence model of distance teaching, should, as mass-produced teaching media, be regarded as examples of educational technology. They function on their own (or in conjunction with other sources) by virtue of their simplicity, wide acceptablity, cost-efficiency, and the advantages shared by all printed media through the centuries.

When these two views are placed side by side, the following question emerges, one that goes to the roots of traditional teaching: To what extent are printed study guides able to cater for the needs of distance-teaching students in the same way as lecturers do in the case of attend-

ance teaching? The view expressed in this paper is that well-structured study guides are able to achieve as much as, sometimes even more than, contact sessions (especially lectures), and that they enable distance teaching to yield similar or even better results than traditional attendance-teaching methods.

In terms of educational technology the same question may be formulated as follows: Are study guides able to cater for the needs of students to the same extent as more sophisticated educational technology systems? As higher education operates primarily in terms of the traditional teaching model, this question will not be pursued any further. The remainder of this discourse is confined to a comparison of traditional attendance teaching at universities and the correspondence model of distance teaching.

Attendance teaching has one notable disadvantage from the very outset, one testified to by all teaching development centres at universities and national bodies working in the same field. This is simply that the many academics daily lecturing to students are not necessarily good teachers. To improve a university's teaching, the general level of teaching of all its academics has to be improved.

In the case of distance teaching, mass-produced study guides serve as conduits for teaching. The guides eliminate much of the undue subjectivity associated with traditional attendance teaching in lecture rooms. Furthermore, advances in teaching theory can be translated into a suitable format without delay, and this in turn can be multiplied any number of times as required. There is comparatively little further outlay on development, or continued effort. This makes it possible for educationists to focus their expertise on the planning stage, and the work of didactic advisers and academics can be integrated for the purpose of achieving the maximum teaching/learning efficiency through study guides.

Once a study guide has been completed, students are able to proceed at their own pace, and study in their own time. From the students' point of view, study guides are objective presentations. They are free from the

individual idiosyncracies of lecturers, the vagaries of human nature, and unforeseen interruptions that occur when members of staff fall ill, leave or rotate.

The very nature of attendance teaching isolates it from these advantages; teaching development has to focus much of its endeavour on motivating lecturers as individuals, and on encouraging them to master good teaching practices they require daily. The benefits of sound teaching take longer to reach the student body since lecturers, once convinced of the necessity of sound teaching procedures, still have to start experimenting with their application.

If these arguments are accepted, the next question is of cardinal importance: How can study guides be designed to assume the essential function of dedicated teaching staff?

One of the self-evident and major shortcomings of distance teaching is that lecturers are not readily available to answer questions when problems arise, or to provide more detailed explanations when these are necessary. These problems have to be anticipated, and eliminated as far as possible during the planning stage. When study guides are explicit, clear and well-illustrated with relevant examples, and are structured to allow for interaction that enables students to determine their own academic standing, they provide a superior means of attaining learning objectives, even in comparison with well-structured attendance teaching situations that are followed by unstructured individual study (known as homework at schools).

For study guides to attain the ideal qualities and level of effectiveness outlined above, the guidance they contain should be adapted to the academic level of the target student group. This opens two further lines of argument:

The first has to do with the following question: To what extent can students who vary considerably as to study skills and academic ability use the same study guides? This query is based on the assumption that

all students use their study guides in the same manner, an assumption that originates in the analogous lecture situation where all students are exposed to the same subject matter in the same way.

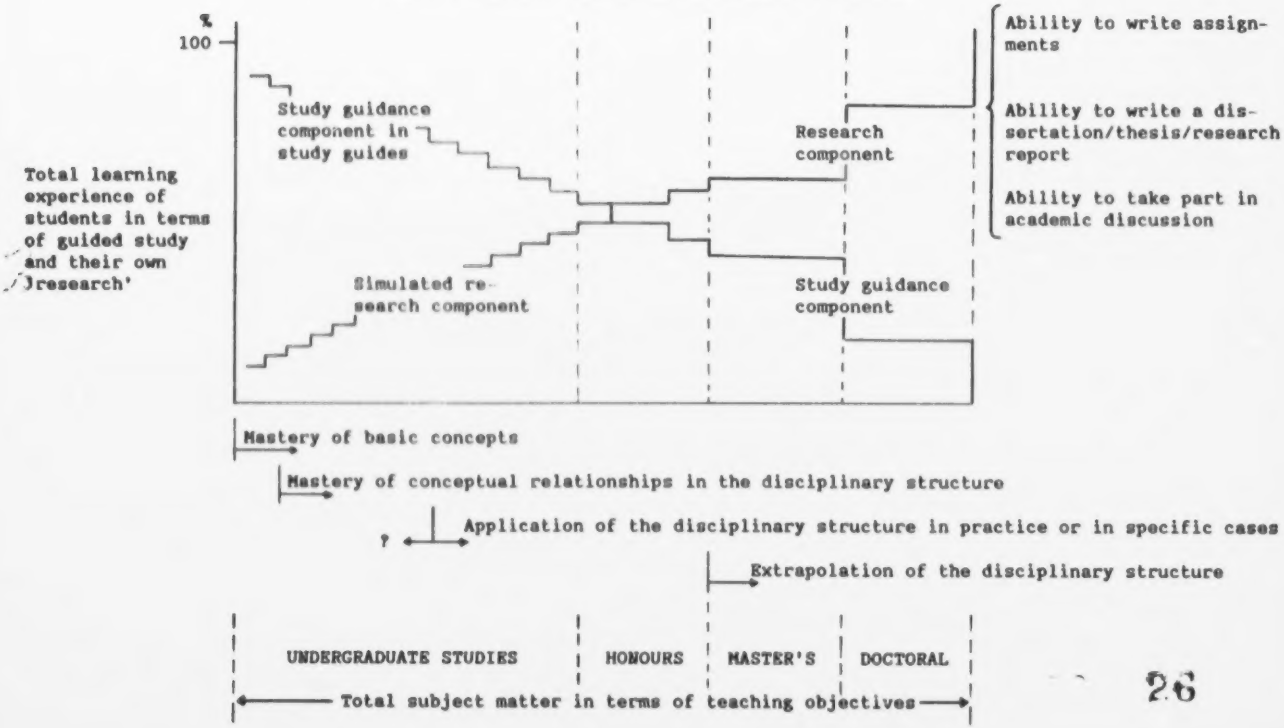
The very opposite should be assumed. Study guide design should afford individual students the opportunity of developing their own learning styles. Once they have identified the teaching objectives, they should find, and be able to use, multiple access points to the subject matter. The study guide should enable students to keep to the order of presentation if they wish, or to select areas they consider relevant, skip material they have already encountered and do not wish to repeat, or evaluate themselves on any section where they wish to ascertain their standing, even if they do this before studying the relevant part in any great detail. It follows that study guides can hardly be 'too easy' in this regard. They should, however, provide a measure of 'difficult' work as well by, for example, inserting appropriate self-evaluation questions that challenge even the best of students.

Well-planned study guides, designed with the above considerations in mind, are able to do what lecturers are unable to achieve during attendance sessions; they can cater for a wide range of academic and study skills as well as study tempos.

The second line of argument poses the following question: Can study guides fulfil the role lecturers can play in developing the study skills of students? Again the answer is that effective study guides can function more consistently and over a broader spectrum than the study guidance students normally receive during the course of their studies. Study guide planning allows lecturers to include measures that compel students to develop appropriate study skills systematically. Diagram 1 illustrates the progression envisaged: initially guides can contain a larger measure of study guidance, and a relatively small proportion of simulated research, particularly at undergraduate level. The ratio is eventually inverted at post-graduate level, where study consists of a steadily growing research component and correspondingly less guidance.

DIAGRAM 1

RELATIONSHIP BETWEEN STUDENTS' STUDY AND RESEARCH ABILITIES AND ACADEMIC PROGRESS IN HIGHER COGNITIVE ABILITIES


%
100
Total learning experience of students in terms of guided study and their own 'research'
Study guidance component in study guides
Simulated research component
Research component
Study guidance component
Ability to write assignments
Ability to write a dissertation/thesis/research report
Ability to take part in academic discussion
Mastery of basic concepts
Mastery of conceptual relationships in the disciplinary structure
?
Application of the disciplinary structure in practice or in specific cases
Extrapolation of the disciplinary structure
UNDERGRADUATE STUDIES
HONOURS
MASTER'S
DOCTORAL
Total subject matter in terms of teaching objectives

In this way study guides are clearly able to develop systematically most of the study and research skills students have to acquire, and to do this from almost any level. The only condition is that students should have reached a level of fairly well-developed reading skills.

The stipulation that study guides, to be effective, should cater for different levels of studying ability and academic skills, and also provide for the development of study and research skills, appears to include certain conflicting elements. These elements can be reconciled, however, by systematically increasing the level of the *spectrum* of the study skills required, that is, from a low spectrum to an overlapping higher spectrum. Diagram 2 illustrates this possibility.

The long line represents a continuum indicating from left to right the amount of guidance which can be incorporated in any section of a manual. The starting point, left, indicates extensive guidance incorporated in a set learning route, and proceeds to minimum guidance, right, e g in the case of doctoral students.

A1-2 indicates the spectrum of study skills first-year undergraduate students require to study the first few themes (topics, units) in the study guide. The A1 level represents the route the weaker students are likely to follow (the set learning route), and A2 the route the better students, or those with well-developed study skills, could select.

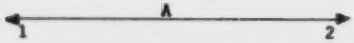
B1-2 indicates the spectrum of study skills students will need to study the next themes. The B spectrum overlaps considerably with the A spectrum. The supposition is that students whose study skills corresponded to level A1 at the outset should by this time have improved, at least to level B1. Students who started at, or reached, level A2 are now able to use or develop skills up to level B2.

DIAGRAM 2

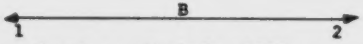
ACCOMMODATING DIFFERENT LEVELS OF STUDENTS' STUDY SKILLS
IN STUDY GUIDES AND DEVELOPING THEIR STUDY SKILLS

High study guidance component

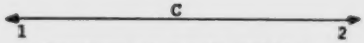
Low study guidance component



Spectrum of study skills required for first themes in first level course.



Spectrum of study skills required for middle themes.



Spectrum of study skills required for last few themes.

The arguments in this paper hinge on the fact that the didactic quality of study guides can be controlled. This didactic quality is determined by a large number of independent variables such as

- language level,
- tone of the study guide, e g formal or informal,
- valid use of various objective-setting techniques,
- degree and format of guidance - whether this is integrated with the text or provided extratextually,
- use, frequency, level and type of self-evaluation questions,
- amount of subject matter dealt with before the setting of self-evaluation questions, i e subject matter covered by each self-evaluation question.

So far the main argument has been that self-study, when based on well-structured guides, is superior to instruction presented by means of lectures, or teaching in the traditional sense. Associated with this is the extent to which study guides are equipped to take the place of group discussion.

To all appearances, the major didactic characteristic of group discussions is that they create a stimulating environment where ideas about an academic topic are exchanged with a particular objective in mind. Undoubtedly the same objectives can be attained by means other than academic discussion. The study guide may well be one of these means.

If, however, group discussions are considered the best means of attaining the objective, and for some reason the study guide has to simulate a group discussion, the guide is clearly at a disadvantage. Well-structured series of questions and remarks are able to substitute in part for the input of the various members of a discussion group, but would lack the stimulating give and take of human contact. In this case the personal motivation and academic drive of students would have to compensate to the extent that this is possible.

On the whole then, can the tables be turned? Will distance teaching at university by means of effective, well-planned study guides, ultimately be accepted as more effective than traditional attendance teaching? This seems more than likely, provided that the comparison is made on academic grounds, and that the evaluation is based on students who study full-time through distance teaching.

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DO EXISTENT DEFINITIONS OF DISTANCE EDUCATION ALLOW FOR ANALYSIS OF SUCH A PROVISION IN A VOLUNTEER ORGANIZATION?

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ABSTRACT

In the growing field of distance education effort has been made to define the area. Are these definitions acceptable? An attempt is made to apply one of these theories to an existing adult education provision which incorporates distance education elements. The paper concludes with a number of queries intended to stimulate further discussion.

INTRODUCTION:

Over the last two decades a number of definitions of distance education have been postulated as the field has grown and interest in this area of education has increased. How acceptable are these definitions?
A good definition should state precisely what is meant by a term. If it is universally accepted, it will be regarded as final and not subject to revision.
However, definitions in the human sciences tend to remain flexible.
While some recognized authorities in a sphere of enquiry may claim to have fixed the definitive statement colleagues and other workers in the field are at liberty to accept or reject a thesis.
Perhaps the most telling test of any theory, is an attempt to apply it to a real-life situation. Would a brief analysis of the distance education elements of an actual adult education provision of a volunteer service organization be a worthwhile exercise in assessing this definition?

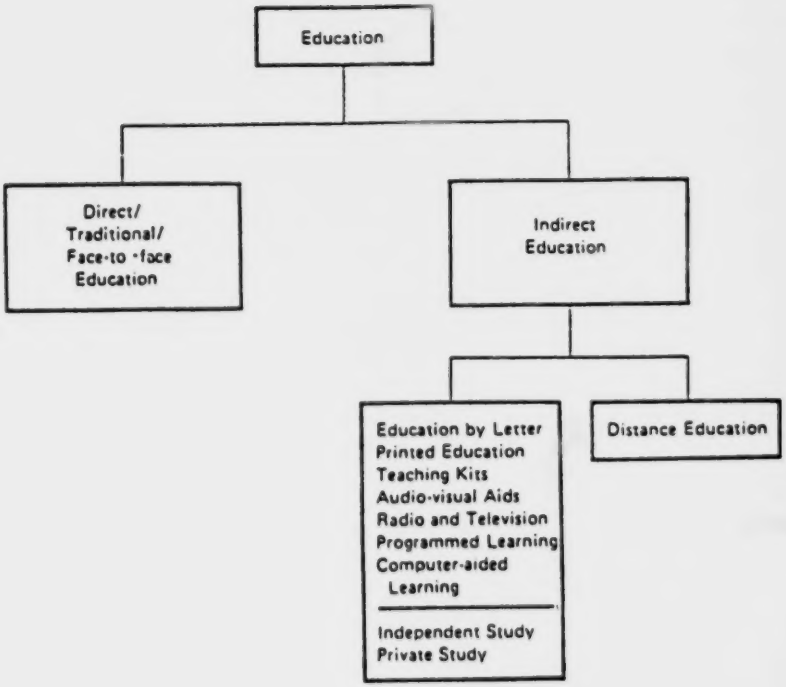

Fig 1: Relationship of distance education to other forms of indirect education

ONE OF THE DEFINITIONS OF DISTANCE EDUCATION:

In an article entitled "On defining distance education", Keegan (1980) has perceptively analyzed a number of the many definitions of distance education which exist.
One of these reflects the work of Otto Peters.
Figure 1 has been developed by Keegan from an idea of Peters and shows the relationship of distance education to other forms of indirect education.
In this diagram Keegan shows that education is either 'direct' or 'indirect', depending upon the presence or absence of conventional face-to-face communication. He holds that some forms of education in the diagram bear resemblances to distance education, but lack one or more of the essential components of a distance education programme.
He considers the six essential characteristics to be:

- separation of teacher and student
- influence of an educational organization especially in the planning and preparation of learning materials
- provision of two-way communication
- possibility of occasional seminars
- use of technical media
- participation in the most industrialized form of education.

This final concept has proven difficult to understand and interpret.

AN ATTEMPTED APPLICATION OF PETER'S THEORY OF DISTANCE EDUCATION TO THE ADULT EDUCATION PROVISION OF THE UNION OF JEWISH WOMEN OF SOUTH AFRICA:

The Adult Education Division of the National Executive Council of the Union of Jewish Women of South Africa (henceforth the UJW) is but one section of a complex organization which has existed in South Africa for fifty years to serve the community at large, irrespective of race or creed. Where a societal need is perceived, the UJW attempts to offer to service that requirement through its numerous branches nationally. Furthermore, an association with the International Council of Jewish Women enables the UJW to utilize international expertise in its programmes.
A strongly developed Community Services Division offers members an opportunity to fulfil their voluntary obligations within their own communities and in South Africa generally.

THE SEPARATION OF TEACHER AND STUDENT.

In the early 1950's the WJW far-sightedly sent one of their volunteers to the United States of America for an extended study period, in order to review new trends in the swiftly-developing field of adult education. An adult education facility was subsequently developed in their Johannesburg branch which over a period of some years was extended to their numerous branches in many centres throughout South Africa.
As more and more of their members in small and large towns joined the growing number of study groups, distance education elements came to be used to disseminate information to the various groups from the national office in Johannesburg.
What had begun as only face-to-face education in one city, has led to a separation of teacher and student as branches far from Johannesburg have joined in establishing well-structured adult education facilities in their areas. This fulfils the first of the essential characteristics discussed earlier.

THE INFLUENCE OF AN EDUCATIONAL ORGANIZATION, ESPECIALLY IN THE PLANNING AND PREPARATION OF LEARNING MATERIALS:

Within the last few years a necessity has arisen for an in-house manual entitled Thinktank. It lists resources, ideas, programmes and other useful information which members can use to facilitate their adult education planning. The influence of the educational section of the organization is also felt repeatedly in the ongoing creative planning and preparation of learning materials. Not only are blueprints offered for the running of purely educational lessons on many subjects, but training sessions are being continuously developed for the community services function
Volunteers are notoriously difficult to motivate if their own needs are not carefully considered. This fact is frequently stressed by a monthly newsletter which briefly highlights a few suggested programmes and resources for branches, encouraging members to attempt to fulfil their own and their community's learning needs.

PROVISION OF TWO WAY COMMUNICATION AND THE POSSIBILITY OF OCCASIONAL SEMINARS:

As it frequently does the National Executive Council of the UJW is currently planning a seminar on the problem of aging, currently a growing internationl preoccupation It proposes to consider in detail such aspects as physical and mental decline, housing, preparation for retirement and the vexed question of how to furnish support groups for aging people left in this country when younger members of the family emigrate.

Once the seminar has been run in the pilot area, a blueprint will be networked to all other branches which will then be able to comtemplate the possibility of running their own seminar on similar lines.

The Cape Town branch has been so inspired by the idea that they have already planned a morning panel discussion on the question of aging and, as this will precede the Johannesburg seminar, will provide feedback which will no doubt prove useful.

It can be seen that autonomy is encouraged. Larger groups may choose a lengthy two-day presentation, while small groups may decide to discuss only one aspect which directly affects their town. For instance, if a centre has no aged home, the group could consider the implementation of such a general community resource for the housing of the aged.

All groups are at liberty, and are in fact encouraged, to feed back experiences in running programmes to the head office and to other branches. There are obvious advantages to be gained from this two-way communication.

However carefully blueprints are developed, it its found essential that provision for feedback and support continuously be made. This ongoing process of communication and linking is critical if progress is to be made by groups which are fed learning materials developed and dispatched by the education staff at head office.

As in any distance education provision, it is difficult to assess the quantity and quality of the learning that actually takes place, but the two-way communication process is accentuated in order to attempt to assess the efficacy of the distance education being offered.

A useful spin off of this process is that the disillusionment of head office staff is minimized if feedback is encouraged, thus circumventing an oft-encountered distance education problem

THE USE OF TECHNICAL MEDIA:

Telephone and postal contact is encouraged and occasional seminars planned for periods when head office volunteers and staff members are visiting outlying areas.
The use of technical media such as correspondence, printed materials, teaching and learning aids, audiovisual aids, radio, television and computers is emphasized repeatedly.
Apart from offering unrestricted personal and postal access to a small central media resource centre in Johannesburg all branches are kept well-informed of book, film, audiotape and videotape libraries in their own areas. Furthermore, names and contact addresses of suitable speakers are networked regularly when such resource people visit various parts of South Africa.

DOES THE UNION OF JEWISH WOMEN QUALIFY AS A DISTANCE EDUCATION FACILITY?

Up to this point five of the six quoted requirements of a distance education programme have been seen to be met by the education provision of the UJW.
There remains the demand for what has been termed 'the most industrialized form of education'.
The complexity of this latter concept, which depends upon an extensive analysis of how distance education relates to the production process, is not easily applied to the adult edcation provision under discussion.
The difficulty would seem to lie in the fact that in a volunteer organization the learners may choose to function at whatever level they wish in the education process. Certification is not emphasized and previous education qualifications are rarely a prerequisite for participation.
This last fact is recognized as encouraging large numbers of learners to extend themselves and in more successful cases has led to enrolment at formalized and established distance education institutions, such as UNISA. This process of self-actualization has been greatly encouraged by the UJW

Some contention seems to exist as to whether it is valid to attempt to relate distance education to the business or production process and, at least in the light of this theory, precludes the UJW adult education provision from being considered a true distance education programme. Should this be so?

AND THE NEXT STEP? SOME THOUGHT QUESTIONS:

The opening paragraphs of this paper accentuated the need to provide definitions in any field of human endeavour.
In a relatively new area of development such as distance education it is necessary for parameters to be drawn. But what is being excluded in the process?
Will education provisions which reflect only some aspects of distance education be downgraded by professional educators and the public as a result of non-acceptance?
Will the so-called 'other forms of education' (too numerous to discuss in detail here) come to be considered inferior - if they are not already considered so?
Could the same provisions be encouraged to achieve more in their choosen fields if the definitions emphasized what they do have rather than what is allegedly missing?
Is the education provision in a volunteer organization any less acceptable becaust it reflects fewer distance education elements than does a large formal organization?
Crucial developmental work in the distance education field may be better encouraged by not being imbued with an aura of being not quite acceptable, or not measuring up to what only some educators consider to be an acceptable level. Researchers tend to feel isolated and easily disheartened by what they may interpret as non-acceptance of their work. How much better to encourage them.
Then too, would the lack of strict definitions affect the quality of distance education provisions?
Perhaps the best definition of distance education will eventually be one which is flexible enough to accommodate many different facets of the genre while excluding obviously disparate aspects.

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ELITISM vs PRAGMATISM: SCIENTIFIC APPROACHES TO COURSE DESIGN

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INTRODUCTION

'Our education system is in trouble ... because while there is much learning going on, it does not often result in well educated people'. Thus Robert Gagné (1980:8). He is, of course, referring to a continent far removed, spatially, from our dot at the southern end of Africa. But the 'global village' is a reality, and problems that beset wealthy, first-world North America are bound to be discovered in a divided, relatively impoverished, third-world southern Africa. The ideal of 'education for all' is therefore as unlikely to obtain in Johannesburg as it is in New York or, for that matter, in Tokyo or Birmingham. Here, however, the situation is exacerbated by what many believe to have been a policy of deliberate neglect over several decades, and by the cost (today) of providing the facilities for the conventional schooling of millions of people hungry for academic qualifications.

With regard to tertiary education – and specifically, university education – there is just as much awry. A country the size of South Africa (including the 'Nation States') cannot afford twenty-three universities, neither in terms of manpower (just where is the properly qualified academic staff to come from?) nor in terms of funding. For example, having created this plethora of institutions of higher 'learning', government agencies seem intent on reducing, or inhibiting, their effectiveness by means of the ubiquitous SAPSE formulae, and by discouraging, insiduously, the growth of student numbers. And this at a time when there is every indication that hitherto deprived people are seeking increasingly to acquire tertiary degrees and diplomas.

The above might appear to be a gross oversimplification of an extremely complex matter. But it is, in essence, an incontrovertible fact, and one that has been well researched and documented. Where, then, does the solution lie? If South Africa cannot afford its so-called 'residential'

universities, some form of alternative education needs to be provided: and this is where distance education comes into its own. At both secondary and tertiary level, commercial institutions such as Damelin College and Rapid Results College have more than proved their worth; Technisa (offering technical training) and Technikon RSA (a distance-teaching Technikon) are steadily coming into their own; and the University of South Africa has, in terms of student numbers and the quality of its degrees, no need of introduction.

However, because individuals vary so much not just in ability but also in motivation and interests, even the most successful educational departures cannot be expected to benefit all students equally. Although an institution may raise the general level of attainment, one may justifiably, I believe, question its success. Why, for instance, do some students pass all their courses, and others not? Are the assumptions of teachers western-derived and – concerning 'standards' and content sequencing – elitist? One would find it difficult to disagree with Herbert Vilakazi that some of the white residential universities subsist in their thinking on a neo-colonial heritage. As he says: 'In white liberal universities black students are perceived to be a problem, since the assumption is that most black students are not at the same level of academic or intellectual development as most white students .... The orientation programmes are designed to help blacks adjust to the white experience. Not too much thought is given to helping whites adjust to the black experience' (Paice 1987:44).

In this paper I propose to take Vilakazi's view a step further with reference particularly to distance education at tertiary level. My argument is that now, as never before, we need to develop an awareness that we live in South Africa, not America or Britain; and that elitism has no place in the new world forming itself around the ivory tower. This does not imply an abrogation of 'standards' (whatever this may mean for individual academic teachers): merely a realization of a living, riving world 'out there'; and the place to begin is the study guide, the principal modus vivendi of distance teachers and learners.

ELITISM AND THE IVORY TOWER MYTH

George Robinson and Janice Moulton (1985:1) argue that 'there are many benefits of higher education, but immunity from ethical problems is not one of them'. Is it morally right, for instance, for any university to 'adopt a policy of admitting many students, collecting their tuition money, and then allowing a large proportion of them to flunk out' (Robinson 1985:78)? By definition, academic teachers are the ones who 'create, shape and disseminate knowledge and ideas. There are several (overlapping) routes through which these sets of knowledge and ideas influence patterns of socio-political action and thought in ... society' (Etzioni-Halevy 1985:17). Lipset and Dobson (1972:137) and Brym (1980:12) regard academic teachers, similarly, as those 'engaged in the creation, elaboration and dissemination of theoretical knowledge, ideas and symbols' (Etzioni-Halevy 1985:9). These are the elite: a group of people who are inordinately influential in shaping the course of tertiary education. They are also the people who must ultimately (collectively and individually) answer the question posed by Robinson and Moulton.

If the stance is elitist, however, the chances are that this particular ethical problem in higher education will receive short shrift. Here is Eva Etzioni-Halevy (1985:38-39) on the subject:

> In a sense, this tendency of the Knowledge Elite to legitimize its endeavour by stressing its contribution to the welfare of society harks back to a longstanding tradition. Ever since the beginnings of modernity, and especially since the Enlightenment, reason, knowledge and particularly science came to be associated in Western thought with social progress. Advancing knowledge, and those who wielded it, were to lead to the conquest of nature and to a better understanding of society, and would thus lead humanity towards perfectibility and greater happiness.
>
> Ideas such as these were subsequently perpetuated into the nineteenth century by thinkers like Henri de Saint-Simon and Auguste Comte whose dominant conviction was that intellectual progress would lead to social progress, and who emphasized the role of science (and social science) in controlling, guiding and advancing society. Later on the Fabians, the German academic socialists and the American liberals of the 1920s

and 1930s all took for granted the powerful, beneficial effect of applying reason, knowledge and, in particular science, to the economy, to the creation of social policy and to the planning of society's future.

Nevertheless, as long as universities were small, their students few, and the public funds required to sustain them minimal, knowledge in the humanities and the social sciences could still find its legitimation mainly intrinsically – as knowledge for its own sake, without having to prove its practical utility for society. Concomitantly its creators had to legitimize themselves primarily inside rather than outside the intellectual establishment.

Subsequently, however, the role and size of universities changed. From centres for the creation of knowledge, and of small elites of experts in that knowledge, universities turned into centres for the training, selection and accreditation of larger and greater varieties of elites and for desired occupations in general.

In the light of this it is quite easy to turn any elitist response on its head. Knowledge for its own sake is all very well in 'normal' times. One may argue, too, that 'maximizing the benefits of higher education requires that it be limited to the academically talented and therefore not be given to everyone' (Robinson 1985:7). However, what cannot be disputed is that, once admitted to an institution of higher learning, students can expect to be placed in a learning situation in which they can succeed. If there is no possibility of their succeeding, why admit them in the first place? As Apter (1977:75) points out, the liberal conception of the relationship between tradition and modernity in universities is 'not so much wrong as it is incomplete, flawed and oversimplified'. It does not take into account the spiritual and community needs that university study often helps individuals to satisfy.

KNOWLEDGE AND INSTRUCTIONAL EFFECTIVENESS

Geneva Gay (1986:169-170) maintains that effective instruction 'presupposes mastery of the subject-matter content, but ... does not guarantee it':

> To achieve instructional success ... teachers have to do more than merely share their knowledge. They must *translate* their knowledge of the discipline into a *delivery system* that is meaningful to students. In fact, for any curriculum to be successfully implemented, the "what" and the "how" are indispensable and ... in practice they are usually symbiotic. We cannot assume that the skills required of instructional translation are acquired automatically. ...
>
> If we give any credence to Benjamin Bloom's taxonomy of objectives in conceptualising the major components of [teaching] ... then theory, philosophy and cognition, as described in it, should precede pedagogy in the sequence. While the emphases of the first three components are knowledge acquisition and comprehension, *pedagogy* is a translation process which required teachers to synthesise and apply their knowledge ... to the context of teaching. ... It also requires teachers to configurate their knowledge ... differently from the way they learned it in order to achieve certain objectives for students. Furthermore, 'pedagogy', as the art or science of teaching, means instructional action directed towards others. This action implies the need for planning, and planning requires the use of informed decision-making.

What, exactly, is this 'delivery system'? It is, in my opinion, the result of a careful, judicious approach to <u>what</u> is taught, <u>why</u> it is important, and <u>how</u> it is presented to facilitate learning: in short, a concerned and scientific approach to course design, where the <u>translation</u> of knowledge (by the writer of a study guide) into logical and assimilable learning segments is paramount.

The first consideration, here, is the discipline itself - with its clearly delineated aims, the content to be studied by the learner, methods of study peculiar to the discipline, and the people (the elite?) who practice the discipline. These aspects need to be debated, and at least written down somewhere, by those responsible for a course. The second consideration

affects the needs of both student and society, and deserves similarly to be recorded and debated: this is the base of the discipline. Is it humanistic, technological or, perhaps, futuristic? How will it benefit the student? How will society benefit from the discipline? These questions, although they might appear simplistic, have a direct bearing on content selection and on the way a student might view the course with which he or she is busy. The kernel, in this instance, is value – in that 'affective and cognitive phenomena are not separable. They develop together and influence one another' (Payne 1974:151). Merely because we, as practitioners, are able to identify the strong – and, for us, important – humanistic base of, say, English literature studies, does not necessarily or automatically imply that a student will share our preconceptions. These have to be spelled out, and the content sequenced in such a way that the student comes to share our enthusiasm in the affective domain

There is, naturally enough, the requirement that we combine 'empirical research with participatory curriculum development' (Bude 1983:27); furthermore, statements about the curriculum must be made in terms which are 'susceptible of disproof by empirical means' (Taylor 1968:92). This implies, I think, that one's approach should be tentative and exploratory, rather than dogmatic and assertive: it does not imply, however, that there should be no approach at all, with refuge being sort in the assertion that 'I'm the teacher – and I'll decide what's best for my students'. Too many students are, as Hoggart (1980:31) expresses it, 'locked in a cycle of deprivation' for the distance educator to ignore the questions: 'does the course have the quality of significance?' (Nerbovig 1970:25); and, 'are both content and method sufficiently "significant" for "effective learning" to take place?' (Brady 1983:95). If the considerations referred to above are not taken seriously, or at least consciously addressed, then we run the risk of failing to modify a 'self-satisfied preoccupation with western culture' (Dressel 1979:392); that is, of ignoring the demands of the student and society through elitist (but usually inadequately spelled out) assumptions concerning the discipline itself.

PUTTING THEORY INTO PRACTICE

Mazmanian's (1980:9) premise is that – once a student has been enrolled – he or she becomes involved in 'mandatory participation' as a 'social structural force' within the three basic cognitive interests advanced by MacDonald (1975:289): 'control, consensus and emancipation'. 'Control' is that which occurs once a student has 'mastered' the content; 'consensus' is broad agreement between student and content concerning the value of the discipline; and 'emancipation' is the acquired ability to think independently about a subject in all its aspects. It is essential, then, for anyone preparing to write a study guide first to notice Tyler's (1949:i) four fundamental questions, which Kelly (1982:11) has more recently posited as: What are we hoping to achieve? What ground are we planning to cover in order to achieve it? What kinds of activity and methods are likely to be most effective in helping us towards our goals? What devices will be used to evaluate what we have done?

The 'science' of psychological and educational thinking as it pertains to the creation of a learning experience (through the medium of a study guide) is not as 'daunting' as many would seem to think, and is accommodated comfortably in the following ten-item checklist.

1. Prepare the student

   Although it is not always possible clearly to distinguish between structuralist and behavioural approaches, it should be remembered, as Piaget (1964:176-186) states, that the key factor in any progression from the concrete operation stage to the formal operation stage is the 'process of self-regulation'. Mellon and Sass (1981:29-30) describe this self-regulation as an active process, occurring in two phases: 'assimilation', where unfamiliar situations are confronted by means of 'existing reasoning patterns'; and 'accommodation', in which the individual 'seeks to alter his or her reasoning patterns to develop more adequate ways of dealing with the new problem or information patterns'.

   Hence the need, following Ausubel, for 'advance organisers' which set the mental processes going and help the brain to map out the paths to be followed in the learning experience. Patterning does not arrive

already structured. Students must be told at the outset the prerequisite skills and knowledge required for successful completion of a study unit. They should also have clear objectives set out for them, so that they know exactly what they will (or should) have covered by the end of the unit.

2. Activate and maintain motivation

As stated, patterning does not arrive ready-made. This has, initially, to be provided for the learner, with a clearly visible timescale for the attainment of stated objectives. Patterning helps motivate students in that they 'categorize and classify events, situations, and ideas', with the categorizing itself becoming 'part of a pattern' (Berman 1968:128).

3. Provide models of behaviour for mastering

That which is expected of students should be modelled in the study guide. It is unfair, for example, to present students with a 160-page disquisition on a topic and – at the end of it (if the students have perservered to the very end) – to expect them to prepare a five-page assignment. If students have to synthesize, then the teacher has to do the same - not by way of a model answer, but through the manner in which the content itself is presented.

4. Expect active responses

Although teacher and student are separated by 'distance', this does not mean that the latter has merely, and passively, to read the material in a study guide. Activity is easily generated: through 'questions to bear in mind' and 'activities', which entail having to jot down ideas and responses.

5. Provide step-by-step guidance

Textbooks have chapters. Study guides do not. 'Congruent with clearly stated objectives' (McNeil 1976:113), study guides should be sequenced in 'bite-size' chunks, with each section equal to a manageable study period of 30, 45 or 60 minutes (depending on the subject involved). Current practice world-wide is to name these 'chunks' Units, Study Periods, Modules or Sections.

6. Provide repeated opportunities for practice

The active responses referred to under (4) are one example. A further strategy is to have 'Progress Questions' (Pointers to Progress, Post-tests, Self-tests are other names for these) at the end of each Unit, and at the end of a series of Units. Assignments, as they are structured at present, cannot always provide the necessary repetition of opportunity.

7. Provide immediate feedback

Immediate feedback is not always possible, either in essay-type or multiple choice-type assignments. It is consequently important to provide feedback concerning the 'questions to bear in mind', 'activities' and 'progress questions'. This can be done in the text of each Unit, at the end of a particular Unit, or at the back of a study guide.

8. Organize a graduated sequence of presentation

Melton (1981:423) maintains (and I concur) that a study guide (and each Unit within the guide) should attempt to 'develop individual students' abilities methodically and cumulatively', moving from 'simplified wholes to more complex wholes'.

9. Design for individual differences

If students are to be given the necessary 'information-processing skills' (Stoane 1985:36) and 'organizational skills' (Dansereau 1979: 64-73) the study guide designer has to build opportunities into the guide as part of the teaching strategy. Another important factor, especially in a multi-cultural environment, is that of language levels: some type of Fox Index (such as Robert Gunning's) has to be used to ensure that the language of the study guide remains well within Level 13 (Matric + 1), otherwise the concepts explained run the risk of being misunderstood (or not understood at all).

10. Change from an information dispenser to a manager of learning experience

On Johnson's (1983:24) scale analysing learning-rationale strategies, Items 1-9 would seem to score fairly highly in respect of learner-needs

(achievement and developmental levels have been taken into account), content requirements (topics and processes are modelled), purpose (learner actions have been set out), consequence (the context for assessment is given) and communication (general evaluation techniques are structured in progress questions). A study guide designed according to these nine items might very well be said to (at least) have started the academic distance educator along the road to becoming a manager of learning experiences.

CONCLUSION

In conclusion, it is sufficient perhaps to quote Robinson and Moulton (1985:95):

> Dispelling the Ivory Tower Myth enables us to see more clearly. Rather than be discouraged because the myth is gone, we should, in the spirit of the pursuit of knowledge, be glad that the pretense [sic] has vanished. The comfort of the Ivory Tower Myth was undependable and illusory. The victims of injustice and unfairness are not able to ignore the problems; the myth only makes their situation worse. Making decisions while ignoring ethical issues can erode one's sensitivity and self-respect. Now we can directly confront issues that used to be ignored and work toward a better understanding and resolution of them.

As a postscript directed at distance educators, I should like to reiterate that the place to begin is the study guide, where the whole 'science' of course design is put into operation. This is where notions of a neo-colonial elitist heritage has no place. And rightly so, given the constraints of present-day southern Africa.

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DISTANCE EDUCATION: PREPARING FOR THE 21ST CENTURY

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1. INTRODUCTION

In preparing for the 21st century in South Africa, it seems obvious that the increase in the demand for education will be enormous. There are three reasons for this.

The first reason is quite simply a very rapid increase in South Africa's population which may well last another thirty years or more. This means that more and more young people will have to be provided with their basic educational requirements.

The second reason is that, as in many other countries in Africa, Asia and South America, there is a great deal of leeway to make up. In other words it is not just the new arrivals in the population for whom educational provision must be made; development and progress require that the educational levels of those who are already there are upgraded. This is a typical third world problem.

But the increasing demand for education is not only caused by third world considerations. Superimposed on these conditions is the third factor, the demand and indeed the need for life-long education and training in today's world. This factor occurs everywhere; in the third world no less than in the first.

There is nothing very original about these statements, nor is it an original statement to claim that distance education or distance teaching is one of the most likely ways in which these demands for education can be met. In many cases the methods developed by distance teaching institutions are the only possible way of teaching literacy and numeracy to adults, upgrading teachers and retraining others.

This use of distance teaching is inevitable in all those many cases where adults with responsibilities of work and family cannot study full time, even for relatively short periods.

However, apart from this it is the general experience both in South Africa and in other countries that distance teaching is very cost effective. So, even where there is a choice, distance education may be used because it is a useful way to teach within the parameters of a very limited budget confronted by an almost unlimited demand.

It is therefore not surprising that many countries faced with problems similar to our own, have started to organise distance teaching institutions at university and other levels; examples are the "Universiti Sains Malaysia" in Maylaysia, the "Universitas Terbuka" in Indonesia, the National Open University of Sri Lanka and the Indira Ghandi Open University in India. In Europe, Israel and North America a number of universities have been founded with the same aim.

In other words it seems clear that we are right, when, in looking for a solution to the educational problems which will confront us well into the twenty first century, we look very closely at distance education, as in fact we are doing at this very conference.

In such a consideration one should include a study of teaching at different levels as well as teaching at different institutions. And in point of fact, perhaps the best would be to adopt a general teaching model, acceptable to educational specialists, so that one would be in a position to make direct comparisons between distance teaching on the one hand and attendance teaching or contact teaching, on the other hand. As a matter of fact one of the questions that was asked not long ago was to what extent distance teaching is moving closer to contact teaching; the question could just as well be asked the other way round: to what extent can contact teaching move closer to distance teaching.

The point to be made in this paper is that there is such a basic model and that the use of this model would be helpful in the further development of distance as well as other forms of education.

2. COMPARING DISTANCE EDUCATION WITH CONTACT TEACHING

Before we try and present a theory or model of distance education (DE) there is one statement that should be investigated, viz that generally speaking DE is considered to be inferior to contact teaching. In other words to take a course via DE is often considered a second best and sometimes even a second rate solution.

There are various reasons why DE is considered to be second best to contact teaching (CT). One is that learning is supposed to take place only when teaching takes place (and at the same time). Naturally this would mean that DE must stand back for CT, for if teaching is equated with classroom instruction then learning is impossible, or at best a much more laborious process for the distance student or pupil.

At least in theory this opinion is reinforced by the fact that at certain levels virtually all learning and for all levels certain types of learning must be accompanied by the act of teaching.

Thus at primary school level the presence of an adult is indispensable for learning to take place at all. Generally the adult would be a teacher as such, but there are distance teaching situations, e.g. in Australia (School of the Air) and New Zealand, where a facilitator or a parent helps the pupil along; such a facilitator may use certain materials sent out by the distance teaching organisation itself in order to know what to do.

As the pupil progresses through the various grades and standards of schooling more will be expected of him by way of

independent study; in other words he or she will get more homework to do, and more and more of his learning process will take place outside the classroom.

At university level this process towards learning independently is continued; in principle most if not all learning then takes place away from the instructor. This tendency is reinforced by the fact that at University level nowadays the limits on class size are far beyond what is acceptable at school levels. This means that in many courses, especially at first year level, virtually no interaction between teacher and taught can take place; the student is passive and is likely to absorb little knowledge in the classroom, because it is this kind of interaction that makes teaching effective.

This progress from "teacher led" to "independent" learning applies particularly to the cognitive type of study. As far as the affective domain is concerned, it can also apply, because attitudes become more settled and self-determined as adulthood is approached. However an exception, even at university level is presented by learning involving psycho-motor, language and other skills. In these cases it is a great deal more difficult to do without the assistance of the teacher in the training process.

This way of viewing the teaching-learning process may have important implications for the offering of courses at a distance. Where learning is cognitive, there would not necessarily have to be any preference for CT over DE. If the greater part of learning is, in this case, independent learning in the sense that the presence of the teacher is not a prerequisite, then DE can in principle be as effective as CT.

However the DE university will not easily offer courses with a strong psycho-motor skills aspect. Such study courses include medicine, engineering, architecture and others; but not all courses with a practical content are excluded in this way; examples at Unisa would be Practical Art, Social Work, Library

Science, Physics, Chemistry and others. The possibility of offering practical courses at a distance is limited by the proportion which practical work forms of the total course content. Where practical and clinical work represent most of the content of a particular course, such as in the later years of medicine, DE studies are difficult and perhaps impossible to organise.

The point that is being made here, is that, at least at university level and for cognitive learning DE does not have to be regarded as a second best way of teaching. The reason why most would choose the contact teaching university over the DE university does not have to lie in inherently better teaching methods. The reason lies rather in the fact that CT is associated with full time study; this is what a student would naturally prefer if his circumstances allow. Another advantage of the CT university is the presence on campus or nearby of a large number of students, especially at the undergraduate level, who can discuss study and other problems with each other. This type of contact can be made by the DE student only with a great deal more difficulty than his contact student counterpart can; this is indeed a disadvantage of DE and would contribute to the preference for CT.

3. THE USE OF PSI AS AN INSTRUCTIONAL MODEL FOR DISTANCE EDUCATION

How can the idea that for all cognitive (and affective) learning and a part of practical (skills) learning distance teaching can be as effective as contact teaching, at least at university level, be put into practice? There is a quite wellknown system of teaching, designed in the first place for contact teaching situations, which would seem to be very useful in providing us with a basic model, also for distance teaching, where this point of view is accepted.

About twenty years ago Fred S Keller suggested a new instructional system which he called the "Personalized System

of Instruction", better known by its acronym PSI. The system is also known as the "Keller Plan". This system came to have a large number of followers and in the past two decades it has been adopted in a number of universities in the USA. Some ten years ago the protagonists of the system propagated it with a great deal of enthusiasm and they were hoping that it would become very widely spread. This does not seem to have happened, in spite of special efforts such as organising annual conferences, distributing regular news letters about the system etc.

The fact that the system perhaps did not spread as widely and as far as its initiators had hoped does not seem to have been caused by the fact that the system is educationally unacceptable. On the contrary the basic principles appear to be reasonably non-controversial. The actual reason is probably that the system is complicated and requires a great deal of toil and trouble on the part of the teaching staff of the contact teaching university for which it was designed. Another reason is possibly the rather unfortunate title of one of the first articles written by Keller on his system: "Goodbye Teacher" (Keller, 1968). One can accept that we of the teaching profession would not take kindly to this sort of implied threat to our employment opportunities.

For our purpose it is important that the system was not designed in the first place for a distance university or school, but for contact teaching. Yet, when considering the system it clearly fits the demands made of a DE system. It may have to be adapted here and there, but this does not change the basic principle.

RS Ruskin describes the system in these words:

"The personalized System of Instruction emphasizes five basic features in its operation:

1. An emphasis on the written word, i.e., written study guides and materials that are specifically designed to

supplement existing traditional texts.

2. An emphasis on a "mastery" philosophy of learning that allows the learner to progress to the next segment (unit) of material only after he has successfully demonstrated complete knowledge of the existing material.

3. Self-pacing -- an essential feature in any instructional system, which allows for individual rates of learning.

4. The use of lectures for learner motivation instead of just learner information.

5. The use of students to help tutor other students in a "peer-proctor" relationship." (Ruskin, 1974, p.37)

It will be claimed here that PSI could serve as a basic model for an instructional system for the University of South Africa and for other universities as well. If PSI can be shown to be a useful approach, then the comparison between DE and CT universities would become easier; this could open the way to closer co-operation between the two types of universities.

In regard to terminology it should perhaps be mentioned that the "Personalized System of Instruction", could just as well have been called the "Individualized System of Instruction" and indeed the latter term is preferable if the system is adapted to the Unisa and other distance teaching environments.

Usually it is not sufficiently clearly stated that there is a difference between the term individual and personal (although at times the terms may coincide). For instance personal contact is often not the same as individual contact; in a classroom situation with fifty and more students, there can hardly be any individual attention or contact between lecturer and student. Yet there is personal contact, which may be important from the student's point of view since the face to face situation may motivate him.

On the other hand individual attention or individual contact may well take place via a letter or it may be created by a

computer. It occurs whenever the circumstances of a particular individual student are taken into consideration, and this is what is meant by individualization, which in this sense may be more important than personalization or the creation of face to face (or ear to ear by telephone) situations.

In considering the "Keller Plan" or PSI, it will become evident that the "individual" features are more important than the "personal" features. By calling it the "Individualized System of Instruction" it could be quite closely identified with many of the features of the system in use at Unisa now.

3.1 The emphasis on the written word

Perhaps the most important point which is made by those who developed the Keller Plan is the "emphasis on the written word" as the main means of communication between the teacher and his student. One of the founders of the system (together with Keller) J G Sherman (1974, p.25) was quoted as follows by Holmberg:

> "Written materials (or audio-visual media where available and economically justifiable) must become the major informational source. This heavy reliance on the written word requires that the materials be presented more clearly than ever before, with objectives clearly specified, and sequenced in small steps leading from the simple to the more complex. New information must be presented only when the student is prepared to deal successfully with new concepts. All this implies a re-examination of course content." (Holmberg, 1985, p.147)

According to Ruskin (1974, p.8) the use of study guides to teach a student and lead him through a prescribed text has the advantage on the one hand of having the student study organised material that is presented scientifically and in a logical fashion; on the other hand the study guide can be used to explain and is not written, indeed must not be written, to impress the lecturer's colleagues. The latter is a problem often encountered in distance teaching, especially if not sufficient attention is paid to the difference between a pre-

scribed text and a study guide. This also indicates what kind of policy should be followed if no satisfactory texts are available and the material provided by the university must take the place of such prescribed texts. Even if printed in similar format, the "guide" is then a guide no longer and if necessary it can be written in a more scientific way, provided that a guide is provided apart from this or is interspersed with this sort of text book material.

It is interesting that according to this system the study guide and other written materials become the preferred method of teaching, not a second best but unavoidable alternative used by DE universities. This is the main point of the discussion in the previous section.

Another point that comes out of this discussion is the fact that one should be very careful in designing and writing study guides. The University itself should at all times look very carefully at the way it wishes to teach, for instance using Ausubel's advance organisers, setting out clear objectives at the beginning of the guide and providing self testing questions at the end of the guide. At the same time it is necessary to look carefully at the volume of the course as a whole. One way in which this can be done is the use of study units, say thirty for the academic year as a whole, each of which may be supposed to take a certain time to work through.

What is needed in fact, is a professional approach to the problem of teaching at tertiary level (contact universities are coming around more and more to this point of view as well) coupled to a professional approach to the problem of teaching at a distance.

3.2 The part played by lectures

In introducing his remarks about the role played by classroom lectures Ruskin (p.12) mentions that "The traditional lecture system in higher education has been used as the vehicle for

information dissemination for centuries." Perhaps he could have added that since the invention of the printing press, and especially the development of printing to such an extent that books became financially accessible to the majority of people, the lecturing method of cognitive teaching had become obsolete for centuries as well. I refer here of course to those lecturers who use the class room to read from (at best dictate) their notes.

In PSI the lecture is not used in this way at all, but this does not mean that the lecture is rejected altogether. On the contrary, the lecturer can use the time he has with his students to motivate them and to clarify certain points from material which they have already studied. In such a more relaxed atmosphere there is an opportunity for students to ask questions, even when many of them are present. Thus the lecture, according to Ruskin (p.13), becomes "a pleasurable experience for both student and instructor".

For a DE institution such as Unisa there are important conclusions to be derived from this way of looking at the lecture.

First of all it gives an indication of how to regard possible contact between distance students and their teachers. The fact of the matter is that the distance university cannot duplicate the lecturing situation at the contact university. This is why it is a DE university. Contact with students, if it occurs at all, must necessarily be far less frequent. At the same time, in the majority of cases, DE students must be put in a position to be able to study without having access to such contact; otherwise the DE university would fail in its mission.

The fact that the DE university cannot offer the same facilities to its students in this respect, is perhaps the important reason why, for instance at Unisa, lecturing staff are not in agreement about the desirability of organising contact periods with their students. Some regard it as a waste of time, others find it extremely useful. A contributory factor to this state

of affairs is also that it is very difficult, if not impossible in view of the many variables involved, to prove the efficasy of class contact.

The perspective provided by PSI would perhaps solve this dilemma, for according to this, whether one works in a contact or a distance mode of teaching, the part played by classroom teaching has fundamentally changed from what it used to be. It becomes an adjunct to the written word and the study guide. The value of classes can be explained by referring to lines of contact: First the class is obviously of value for the student, because he can meet or at least see his teacher; secondly, and this may be particularly important in a DE situation, the lecturer has a chance of testing his ideas on his students; thirdly, and very important to DE students, it creates the opportunity to meet fellow students.

But it is very clear, that these classes should be different from what used to be offered in the past and that they should be planned differently as well.

A second conclusion that can be derived from the PSI perspective is the use of media. We can confine our remarks here to the audiocassette. Here also it is sometimes thought that the audiocassette (or the radio for that matter) can replace the traditional classroom lecture. If the traditional lecture is no longer a desirable mode of teaching then the same would apply to the use of the audiocassette in this traditional way. One should not try and duplicate what would otherwise be done in a class. Nor should the cassette give an alternative communication channel, which is better served by a printed study guide, or study letter. The cassette should be used, as it is in many cases at Unisa, to motivate students, to point out interesting parts of their course, to let them listen in on a discussion of the topic concerned etc.

There is an important exception here, and this concerns those cases where sound itself is part of the course and is in fact

the skill that is to be imparted, as is the case in languages, music and similar subjects. In fact in this case the cassette most likely contains an effort to duplicate a language or other lesson. The cassette can here be superior to a personal lesson, because it can be stopped, reversed, fast forwarded etc. But then, of course, such cassettes are also used by contact universities in their teaching of languages, literature etc., probably for this same reason.

One of the points that starts to appear from this is the fact that in principle the difference between distance and contact teaching might well be diminishing.

3.3 The "mastery" philosophy of learning

In a true blue Personalized System of Instruction, the mastery philosophy of learning is quite strictly adhered to. Students do not receive their next study unit unless they have given a satisfactory account of themselves in the previous one. The theoretical background is behaviouristic, however, with the element of punishment virtually absent.

In a DE environment instruction on the strict basis of mastery is virtually impossible to achieve. Too much time would be wasted in sending in assignments and receiving back the next study unit, especially in countries with relatively long distances and relatively slow postal services. Moreover, as Holmberg says (p.145) assignments can only be used for the purposes of testing to a very limited extent; they are far more important as a channel of communication between the student and his teacher.

Yet the principle of mastery is an important one and can quite readily be accepted as an indication or even a prescription of how study guides and in fact the study package as a whole should be organised.

The difference would be, that the student himself would be

largely responsible in determining how well he has progressed; in the study guide itself he could, and should, be encouraged to work in this particular way and thus the "philosophical" part of the mastery concept could be retained.

At the same time this philosophy could be supported by the use made of assignments. In other words the assignments could serve to confirm or deny the opinion which the student has formed of his progress. But this again points to an important aspect of the use of assignments: turnaround time.

If the student uses, as he should, the assignment to check his own judgment against the real facts of progress, then he should not have to wait more than a week, maximum ten days, for his work to be returned to him, with comment. Here also, it is reported that the disadvantage of DE is that turnaround time is often far too long and that it has a highly demotivating effect on the student.

One of the problems encountered here is that at Unisa as at most other DE universities students are not admitted to the examinations without a certain minimum of work done. This work generally consists of assignments and they are expected to achieve a certain standard.

The assignments in other words take on the guise not just of a means of communication, but also of tests; and if they are tests, many departments, especially if the assignment is of the multiple choice variety, feel they cannot return the paper concerned until after the due date when the assignments from other students have been received. The possibility of copying must quite simply be kept in mind. But this means that the student may have to wait for weeks for his assignment to be returned. It is no good saying that he should not send in an assignment long before it is due, for his own schedule may differ from that set by the teaching department concerned.

One possibility that has been mentioned to solve this problem

is that departments might have two lines of assignments, the one intended to serve in the admission to the examinations and the other serving the specific purpose of teaching and communication. Another possibility would be the removal of the obligation to submit assignments. Most study departments at Unisa (though not all) feel that this is not desirable because especially in the case of a beginner student some discipline should be maintained.

There is, of course one way in which the actual and strict mastery principle could be introduced even in DE universities and this is by using an extensive network of computer assisted instruction terminals, especially in the larger subjects. This however, lies far in the future as far as this country is concerned, for it would need very sophisticated computer equipment and courseware. Nevertheless it could help to remove eventually some of the "once off" aspects and drawbacks of the type of examinations the DE university is forced to use.

3.4 The principle of self-pacing

In PSI the principle of self-pacing is of course closely related to the principle of mastery. In point of fact, it would appear that these two principles together are the background to the expression Personalized System of Instruction, for it is mastery coupled to self-pacing that allows the student to proceed at his own personal speed. It can be noted here that in Ruskin's description it is said that self pacing allows individual(l) rates of learning.

Self-pacing is a system that differs considerably from the more normal or more usual system of classroom instruction. And perhaps it is true to say that it is the myth of classroom instruction that is at the back of the fact mentioned earlier on, viz that distance education is considered a second best option. Classroom instruction is somehow equated with personal attention in the teaching situation and it is, I think mistakenly, thought to be very similar to the ideal teaching

situation where one or two pupils are taught by one teacher.

This type of teaching model may have been the norm in the very old days, of say more than two centuries ago when only the very rich were educated. It no longer applied when as a result of the Industrial Revolution the demand arose for universal schooling for all. In a highly charged article on Computer Aided Instruction (CAI), classroom instruction is discussed in the following terms:

> "But because it is the most visible and dominant form of instructional communication in our present educational system, we tend to equate classroom instruction with teaching to the exclusion of other modes of instructional communication. Classroom instruction was not always the most visible or dominant form, however, and it will not necessarily remain so.
>
> Classroom instruction developed in the eighteenth and nineteenth centuries, when the most efficient means of delivering instruction involved the grouping of a number of learners around a teacher. ----- That classroom instrucion still thrives is an indication of its resilience and of the other non-instructional functions that schools provide.
>
> ----- the educational system --- has altered or ignored innovations that implied a substantial move away from classroom instruction. Thus, film, radio, and television which revolutionized communications in the rest of society, have had virtually no significant impact on instruction.
>
> ---, schooling will become more anachronistic as the society around it continues to evolve and adapt to new technologies." (Jones, pp.52-56)

This quotation, although referring to a different subject (Computer Aided Instruction), shows clearly that classroom instruction has an enormous hold on the educational scene. Yet anyone who has ever had any dealings with classroom teaching, also as a parent, knows that even children of the same age have different talents for, and rates of, learning. The lack of self-pacing is the important criticism against this system. This lack of self-pacing was acceptable of course, when there was no alternative; but even at secondary and primary school

level the possibility of removing this obstacle to effective teaching now exists by using CAI. At university level, where so much learning must take place independently, as described here, there are additional reasons why self-pacing should be stressed.

In the case of distance teaching at university level, the students are adults, average age thirty, with responsibilities of jobs and families to contend with. Therefore, says Holmberg (pp.10-11) "study should encourage independence"; and in other words, self-pacing is even more important here that in other educational systems.

Here again it can be said that the distance student is in a favourable position in comparison with his contact university counterpart. Since classroom teaching is not a regular feature of distance teaching and is at least not as frequent and all pervasive as at the CT university, the student can largely follow his own schedule, within the parameters determined by the examinations schedule. Especially at DE universities with many students it is very difficult to have more than one full examination session per year and this limits the freedom of the student which Holmberg deems so desirable. He writes in this respect (Holmberg, p.11):

> "[I] reject all kinds of pacing imposed on students, the sort of compulsion that, for instance, the Open University and the FernUniversität submit their students to. The student should be in a position to begin and finish his course whenever he wants to."

However, whether this complete lack of any compulsion is really in the student's best interest, is open to discussion. At Unisa as was mentioned there are many departments which feel that a certain amount of discipline is important to the student himself. By way of compulsory assignments for instance the student will get into the habit of studying. When this system is reinforced by discussion classes which are geared to a certain study programme it is sometimes called periodisation.

Many lecturers are of the opinion that this contributes to the possibilities of success.

It is possible of course that this wish for periodisation is a subconscious wish to recreate some of the features of the classroom system and to recreate also the discipline which the contact teacher can to some extent enforce over his pupils. It does however interfere with the autonomy of the student and in this sense it may not be the best solution to his study problems. The solution might also be different at different levels of study. The successful student of two or three years, should perhaps be put under less compulsion than the student who has just started with his distance study efforts.

3.5 The use of students as "peer-proctors"

The last feature of PSI to be discussed here is the system of student proctors, in other words of students helping other students with their studies. One is reminded here of a system that was used during the First World War in France, when a large part of the teachers had been called up for military service. The authorities then used pupils in higher grades to teach children in lower grades. One of the "teachers" in this system was the late President Pompidou and he reported afterwards that he learned a great deal from this effort while at the same time his "pupils" were reasonably well taught since he could easily remember difficulties he had with the same material not long ago.

Much the same is claimed for the use of proctors by the adherents of PSI. According to Ruskin (p.14) they are felt to be "the single most important feature of the Personalized System of Instruction, for it is through their unique contribution to the instructional process that PSI gains its truly "personalized" aspect."

This fifth feature of PSI shows quite clearly what was mentioned already, viz that PSI was not in the first instance

designed for a distance education system. In point of fact, Holmberg (p.145) mentions that this feature "does not apply to distance education". However he does add an important proviso: "except possibly as a note to the effect that most of the non-contiguous two-way communication ..... can be in the hands of assistants or assistant lecturers rather than of senior staff".

In fact the usefulness of PSI as a guideline to distance education is well illustrated by this particular feature of the system. I already mentioned that one of the advantages of classroom situations in distance teaching as far as the student is concerned, is that he can make contact with other students and that students can help each other with their problems. The fifth feature of PSI confirms this.

The meaning for Unisa, or for other distance teaching organisations would be that it should actively encourage the participation by students and ex-students in the process of counselling and student support. Some departments do in fact use students in different centres in this capacity and it is reported that many students are proud to be involved in this way. The Department of Social Work is one of these. Another Department is largely organised along these lines, viz the School of Business Leadership; this Department actually sets it as a condition of taking its courses that the student should join a study group.

Perhaps there is one point that must be kept in mind and this is that the student in the small centre will not benefit to the same extent as the student in the large centres, where such facilities would be far more easily available and easier organised. This is quite true and it is a fact that no student can join the Business School unless he can join a study group.

It is difficult question. On the one hand one should not make it completely impossible for a student in a far off place to take most of the courses of the University; this is after all the task of a distance teaching university. Probably, when

designing a course one should therefore always take as one's point of departure the student living alone on a farm in the Karoo. At the same time, when it is possible (as it is for instance in Pretoria and surrounding areas), there should be no objection to those in larger centres receiving the advantages of their more favourable location.

4. SUMMARY AND CONCLUSION

It was the aim of this paper to reflect on how one could prepare for education in the 21st Century. In the Introduction we noted that, as in other countries of the first and the third world, the increase in the demands made on the South African educational system would for the foreseeable future be enormous. This would put great strain on the system and distance education at all levels would have to be called in to give a sufficient response to the challenges posed.

The challenge would be a national one and would involve all levels of education and all sections of the educational system. But the one important point about calling upon distance education to do its part would be that this type of teaching is often considered to be a second best choice. This would automatically mean that providing a large part of future educational needs by way of DE, could mean that only second rate education would be available. This means that first of all we had to look at the quality, in principle, of distance education.

The point of view defended here was that full time study would be preferred to part time study and that this is the actual reason for the "second choice" image of DE, which in the majority of cases is part time study.

The second point was, and most of our attention was focused on this, whether one could find an instructional model that would make it easier to compare distance education with contact or attendance teaching. The five features of PSI seemed to fit

these requirements. Incidentally, this is not to say that this model is the only possible one. However it can serve as a point of departure and as a way to improve educational efficacy both at attendance and at distance teaching universities and other educational institutions.

The important point was that PSI was not specifically designed for DE, but that on the other hand it does fit the methods of Unisa and other DE universities quite well. This would make the comparison of DE with CT universities a great deal simpler and more acceptable.

The point could be that in some cases, and this is especially so in the case of cognitive learning, the difference between DE and other universities need not be considered very great. Or in other words distance and contact teaching can be seen to move closer together. The result of this would be that the possibility of other universities entering the field of distance teaching should be investigated. The possible drawback as far as Unisa is concerned, could be that other universities might attract some of the better students. On the other hand, DE has become such a specialized type of education and it needs so much organization (for instance hundreds of examination centres), that this could turn out to be a minor problem; moreover the position of the University of South Africa has become well established.

In other countries DE and traditional universities exist side by side. As far as postgraduate study is concerned DE has been accepted by many South African universities anyway.

However, whether the acceptance of a general instructional model such as PSI leads to greater understanding between universities of different backgrounds or not, it can form the basis of a tuition model for Unisa which could lead to a better understanding of our own efforts by our own staff.

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THE EFFECTIVENESS OF PERSONALISED INSTRUCTION IN DISTANCE EDUCATION: AN EMPIRICAL STUDY*

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1. Introduction

Since the publication in 1968 of the Keller plan for individualised or personalised instruction a number of empirical studies have confirmed the effectiveness of the Keller plan in tertiary teaching at residential university settings. To my knowledge the Keller plan's effectiveness has, as yet, not been empirically tested in a distance education setting similar to Unisa. In the present study the effectiveness of an adapted version of the Keller plan was contrasted with a "traditional" teaching approach.

2. Research Design

The comparison of two types of educational methods requires a fairly sophisticated research design in which the two teaching methods (henceforth abbreviated as PI: personalised instruction and TI: "traditional" instruction) can be viewed as two "treatment" factors, or as two levels of an independent variable. Two groups of subjects formed the experimental groups, viz the PI group and the TI group.

In order to test the effectiveness of PI and TI it was decided to employ assignment marks, examination marks and student satisfaction as the appropriate dependent variables. The logic of this design is that the observed differences in the PI and TI groups as regards the above dependent variables can tentatively be attributed to the differences in the two teaching methods.

Obviously such an inference is only valid if it can be shown that the PI and TI groups were "equivalent" in all respects except that they were subject to two different teaching methods, and if the possible effects of certain nuisance

*See acknowledgement at end of article.

variables were controlled.

A brief discussion of the degree of equivalence of the PI and TI groups, and the way in which nuisance variables have been controlled, is therefore necessary.

As regards equivalence it should be noted that both groups studied the same prescribed textbook which, at the time of the research, was available in both Afrikaans and English. They also received similar tutorial letters and similar multiple choice assignments throughout their respective academic years.

The TI group received only one study guide which consisted of brief chapter-by-chapter summaries of the prescribed textbook. In this Guide no guidelines as to how the textbook should be studied were supplied.

The PI group, in contrast, received seven study guides which were designed in terms of the following Keller plan principles:

i. the demarcation of the total study field in terms of small study units requiring approximately 45 minutes of concentrated study;

ii. for each study unit a list of the specific objectives to be attained for a particular study unit;

iii. a method of study which supplied the students with a strategy for the attainment of the objectives;

iv. a test yourself exercise which required of the students to formulate for themselves answers to questions based on the objectives. Many types of answers were required: one-word answers; one-sentence answers; paragraphs and, on occasion, diagrams and short essays;

v. each test yourself exercise was followed by a model answer devised by the tutors. Students were instructed to compare their answers with the model

answers, and to proceed to the next question if they were satisfied with their answers;

vi. branching techniques were often employed for certain sections of the textbook. This amounted to the following. If a student failed to supply the correct or appropriate answer in the test yourself exercise he was referred to a "remedial" section in the guide. Having studied the "remedial" tuition he was given another test yourself exercise and, on having past the test, he returned to the next question in the test yourself exercise;

vii. at the end of each study unit a criterion-directed progress test was supplied. These tests consisted of a number of multiple choice questions. The answers to these questions as well as the objective(s) covered by each question were supplied at the end of the test to allow students to establish whether they had attained the objectives stated at the beginning of a study unit. This is in accordance with a most important learning principle, viz. immediate feedback (knowledge of results);

viii. the progress test was followed by an additional method of study to aid students' further progress through the study material.

It should be obvious from the above that the PI group received the same basic study package as the TI group, but the nature of the guidance for the PI group was markedly different - hence the two levels of the independent variable.

Equivalence as regards examination performance was achieved in the following way. The examination paper for the TI group (100 multiple choice questions) was sent back to Unisa by the invigilators after the examination. Before the final marking an item analysis was performed to eliminate all questions that did not attain a preset discrimination value. The PI

group received exactly the same examination paper and the same questions were eliminated before final marking. In the case of the TI group the reliability coefficient (Kuder-Richardson 20) of the examination paper was 0,93 and 0,92 for the PI group.

Equivalence as regards student satisfaction was attained by subjecting both groups to the same course evaluation scale.

Some nuisance variables that could possibly mask the effect of the two levels of the dependent variable (PI and TI methods) were identified. They are:

i. ethnic group: (white students and black students - Asian and coloured students were not included because of their small numbers);

ii. language medium: Afrikaans speaking whites and English speaking whites;

iii. matriculation performance: three categories were distinguished, viz. (a) first class matric with university exemption; (b) second and third class matric with university exemption, and (c) no university exemption, or conditional exemption;

iv. mental alertness: A standardised measuring instrument that yields an estimation of a person's present level of cognitive or intellectual operation, was applied;

v. reading comprehension: A standardised measuring instrument which reflects a person's present reading comprehension level was applied.

3. Results

3.1 Results concerning assignment marks and examination marks

Table 1 contains the results of the two experimental groups in respect of their average assignment marks and examination marks.

Table 1: Comparison of the PI and TI groups: assignment and examination marks

	TI group (n = 266)		PI group (n = 242)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Average assignment mark	55,5	17,5	61,6	20,5	-3,1*
Examination performance	43,0	27,1	50,0	19,1	-2,96*

*$p < 0,05$ (one-tailed)

Table 1 indicates that the PI group obtained a significanty higher assignment mark and examination mark.

The possible effect of the five identified nuisance variables on the results in Table 1 was investigated by performing a number of homogenous subgroup comparisons.

3.1.1 Homogenous subgroup comparisons: ethnic group, assignment mark and examination mark.

Table 2 contains the results of a comparison between the white students in the PI group and the white students in the TI group concerning their respective performance in the assignments and the examination. In Table 3 the results for the black students in the PI and TI groups are reflected.

Table 2: A Comparison of white students in the PI and the TI groups: assignment mark and examination mark

	TI group (n = 159)		PI group (n = 139)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Average assignment mark	60,4	18,6	68,6	18,6	-3,8*
Examination mark	46,9	24,1	54,2	24,1	-2,6*

*$p < 0,05$ (one-tailed)

Table 3: Comparison of the black students in the PI and TI groups: assignment mark and examination mark

	TI group (n = 45)		PI group (n = 43)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Average assignment mark	54,6	21,2	58,5	22,3	-0,87
Examination mark	36,4	23,1	43,6	24,3	-1,39

Table 2 indicates that the white students in the PI group obtained significantly higher marks compared to the white students in the TI group. Table 3 shows that the black students in the PI group also obtained higher marks compared to the black students in the TI group, but the differences were not statistically significant.

3.1.2 Homogenous subgroup comparisons: Language medium, assignment mark and examination mark

In Tables 4 and 5 the results for the Afrikaans speaking and English speaking white students in the PI and TI groups are reflected.

Table 4: Comparison of the Afrikaans speaking white students in the PI and TI groups: assignment mark and examination mark.

	TI group (n = 75)		PI group (n = 62)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Average assignment mark	56,3	20,1	69,0	18,1	-3.89*
Examination mark	44,8	23,7	52,5	23,7	-1,89*

*p <0,05 (one-tailed)

Table 5: Comparison of the English speaking white students in the PI and TI groups: assignment mark and examination mark.

	TI group (n = 84)		PI group (n = 77)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Average assignment mark	65,0	18,1	69,3	20,1	-1,40
Examination mark	48,0	24,1	56,3	24,2	-2,20*

*p < 0,05 (one-tailed)

Table 4 indicates that the Afrikaans speaking white students in the PI group achieved a significantly higher mark in both the assignments and the examination. Table 5 indicates that the English speaking white students in the PI group achieved significantly higher marks in the examination. They also performed better in the assignments but this result was not statistically significant.

3.1.3 Homogenous subgroup comparisons: Matric performance, assignment mark and examination mark.

As indicated in the discussion of the research design three separate categories of matriculation performance were formed. Due to the large observed differences between the white and black students, separate comparisons were executed for white and black students.

Table 6 contains the results for the white students in the two experimental groups who obtained a first class matric with university exemption.

Table 6: Comparison of white students in the PI and TI groups: first class matric with university exemption

	TI group (n = 23)		PI group (n = 30)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Average assignment mark	71,3	16,9	74,0	17,3	-0,55
Examination mark	56,3	17,9	58,5	19,8	-0,43

Table 6 shows that the white students in the PI group achieved higher marks in the assignments and in the examination, but

the results were not statistically significant. No similar comparisons for the black students were performed, because of the small number of black students who obtained a first class matriculation with university exemption.

Table 7 reflects the results of a comparison between the white students in the PI and TI groups who obtained a second or third class matric with university exemption.

Table 7: Comparison of white students in the PI and TI groups: second and third class matric with university exemption.

	TI group (n = 109)		PI group (n = 93)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Average assignment mark	60,3	17,8	68,2	19,3	-3,4*
Examination mark	42,3	22,2	52,6	25,2	-3,6*

*$p < 0,05$ (one-tailed)

The results clearly show that the whites in the PI group obtained a significantly higher mark in both the assignments and the examination.

Table 8 contains the results of the same comparison for black students.

Table 8: Comparison of the black students in the PI and TI groups: second or third class matric with university exemption.

	TI group (n = 40)		PI group (n = 13)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Average assignment mark	44,6	22,8	49,5	21,8	-1,0
Examination mark	27,0	24,3	45,0	24,3	-3,3*

*p < 0,05 (one-tailed)

Table 8 indicates that the black students in the PI group obtained a higher assignment mark (statistically not significant) and a statistically significant higher examination mark.

In Table 9 the white students in the PI and TI groups who passed matric without university exemption are compared.

Table 9: Comparison of white students in the PI and TI groups: matric without university exemption

	TI group (n = 27)		PI group (n = 13)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Assignment mark	56,9	23,4	68,2	23,5	-1,6*
Examination mark	40,8	21,4	46,6	21,8	-0,8

*p < 0,05 (one-tailed)

Table 9 indicates that the white students in the PI and TI groups obtained higher marks in the assignments and in the

examination. The higher examination mark is, however, not significant.

3.2 Results concerning mental alertness and reading comprehension

Table 10 contains the results of a comparison between the PI and TI groups with regard to mental alertness and reading comprehension.

Table 10: Comparison of the PI and TI groups: mental alertness and reading comprehension

	TI group (n = 204)		PI group (n = 182)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Mental alertness	15,0	8,0	14,5	8,5	0,59
Reading comprehension	8,5	6,5	7,5	4,5	1,80

The results indicate that there are no statistically significant differences between the PI and TI groups as regards mental alertness and reading comprehension. This result adds further support to the claim (see 2) that any differences between the PI and TI groups on the dependent variables (assignment marks, examination mark and student satisfaction) may be attributed to differences in the two levels of the independent variable (teaching methods).

To further investigate the possible role of mental alertness and reading comprehension it was decided to perform additional homogenous subgroup comparisons in terms of ethnic group, language medium and matric performance.

3.2.1 Homogenous subgroups comparisons: Ethnic group, mental alertness and reading comprehension

In Table 11 the white students in the PI and TI groups are compared with regard to mental alertness and reading comprehension.

Table 11: Comparison of white students in the PI and TI groups: mental alertness and reading comprehension

	TI group (n = 159)		PI group (n = 139)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Mental alertness	18,6	8,5	19,6	7,6	-1,1
Reading comprehension	10,5	4,5	10,6	6,5	-0,02

The results in Table 11 indicate no statistically significant differences between the white students in the PI and TI groups with regard to mental alertness and reading comprehension.

Table 12 contains the results of the same comparison for black students in the PI and TI groups.

Table 12: Comparison of the black students in the PI and TI groups: mental alertness and reading comprehension

	TI group (n = 45)		PI group (n = 43)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Mental alertness	11,3	8,6	8,9	8,5	1,3
Reading comprehension	5,4	4,6	6,2	4,6	-0,80

Table 12 clearly indicates that there are no statistically significant differences between the black students in the PI and TI groups with regard to mental alertness and reading comprehension.

3.2.2 Homogenous subgroup comparisons: language medium, mental alertness and reading comprehension

Table 13 and 14 contain the results of a comparison between the Afrikaans speaking students in the PI and TI groups, and a comparison between the English speaking students (whites) in the PI and TI groups with regard to mental alertness and reading comprehension. No significant differences were obtained.

Table 13: Comparison of the Afrikaans speaking students in the PI and TI groups: mental alertness and reading comprehension

	TI group (n = 75)		PI group (n = 62)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Mental alertness	16,1	8,0	17,5	7,6	-1,10
Reading comprehension	9,0	5,0	8,0	5,0	1,20

Table 14: Comparison of the English speaking students (Whites) in the PI and TI groups: mental alertness and reading comprehension

	TI group (n = 82)		PI group (n = 77)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Mental alertness	21,0	8,1	21,9	9,1	-0,7
Reading comprehension	11,5	6,5	11,9	6,0	-0,4

3.2.3 Homogenous subgroup comparisons: matric performance, mental alertness and reading comprehension

Table 15 reflects the results of a comparison between the white students in the PI and TI groups who obtained a first class matric with university exemption.

Table 15: Comparison of the white students in the PI and TI groups: first class matric with university exemption

	TI group (n = 23)		PI group (n = 30)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Mental alertness	22,1	8,7	21,5	8,7	0,26
Reading comprehension	13,1	5,6	14,5	4,6	-0,90

It is clear that the two groups of white students do not differ significantly with regard to mental alertness and reading comprehension.

The significance of the difference between the black students in the PI and TI groups for this particular comparison was not calculated because the number of students in the two groups was too small.

Table 16 contains the result of a comparison between the white students in the PI and TI groups with regard to matric performance: second or third class matric with university exemption.

Table 16: Comparison of the white students in the PI and TI groups with regard to matric performance: second or third class with university exemption

	TI group (n = 109)		PI group (n = 93)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Mental alertness	15,4	8,6	16,4	8,6	-0,80
Reading comprehension	7,5	4,5	6,9	4,8	0,76

Table 16 shows no significant differences between the two groups of students for the above comparison.

Table 17 contains the results for the same comparison in respect of the black students in the PI and TI groups.

Table 17: Comparison of the black students in the PI and TI groups with regard to matric performance: second or third class with university exemption

	TI group (n = 42)		PI group (n = 38)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Mental alertness	9,5	4,6	8,5	4,6	0,90
Reading comparison	4,5	2,5	4,5	2,9	0,0

No significant differences for this particular comparison were obtained.

Table 18 contains the results of a comparison between the white students in the PI and TI groups with regard to matric performance; no university exemption, or conditional exemption.

Table 18: Comparison of the white students in the PI and TI groups with regard to matric performance: no university exemption or conditional exemption

	TI group (n = 27)		PI group (n = 13)		
Variable	$\bar{x}$	s	$\bar{x}$	s	t
Mental alertness	11,4	2,6	13,2	4,7	-1,30
Reading comprehension	4,5	1,5	6,3	2,6	-2,4*

*p < 0,05 (two-tailed)

From Table 18 it is clear that the PI group differs significantly from the TI group as regards reading comprehension. For mental alertness the difference is not significant.

Because of limited numbers the above comparison was not executed for the black students in the PI and TI groups.

All in all the results in Tables 11-18 clearly indicate that mental alertness and reading comprehension had no confounding effect in producing the significantly better performance of the PI group in the assignments and in the examination.

3.3 Results concerning student satisfaction

Tables 19-21 contain the results with regard to student satisfaction. At the end of their respective academic years students received a course evaluation scale. The evaluation was done in terms of several dimensions, viz. quality of the prescribed textbook; quality of the study guide(s); effectiveness of teaching; and the estimated effort required to do the course.

Table 19: Course evaluation in terms of quality of the prescribed textbook and quality of the study guide(s): Scores represent percentages

DIMENSION OF EVALUATION	EVALUATION CATEGORIES									
	Poor		Below		Average		Above		Very Good	
	TI	PI	TI	PI	TI	PI	TI	PI	TI	PI
Quality of prescribed book	8,9	0,9	15,4	0	34,1	4,2	25,1	29,0	16,8	65,2
Quality of study guide	8,4	0,9	25,2	0	36,1	4,6	13,1	27,2	17,2	67,3

Table 20: Course evaluation in terms of effectiveness of teaching. Scores represent percentages.

DIMENSION OF EVALUATION	EVALUATION CATEGORIES					
	Poor		Average		Above Average	
	TI	PI	TI	PI	TI	PI
Effectiveness of teaching	7	12,2	53,4	28,5	39,6	59,3

Table 21: Course evaluation in terms of the effort required to do the course. Scores represent percentages.

DIMENSION OF EVALUATION	EVALUATION CATEGORIES							
	Little effort		Below Average		Average		Great effort	
	TI	PI	TI	PI	TI	PI	TI	PI
Effort required	0,1	0,5	0,3	0	73,9	53,3	25,7	46,2

The results in Tables 19-21 show various interesting trends. From Table 19 it is clear that the PI group showed a much greater positive evaluation of both the prescribed textbook and the study guide, compared to the TI group whose basic study package consisted of the prescribed textbook and only one study guide. Only 16,8% and 17,2% of the TI group evaluated the prescribed book and the study guide, respectively, as very good. Compare this result with the 65,2% and 67,3%, respectively, of the PI group.

With regard to teaching effectiveness (Table 20) the same trend can be observed, i.e. a shift from a slightly positive evaluation to a highly positive evaluation of teaching effectiveness.

Table 21 clearly indicates that the effort required to do the course was much greater for the PI group - 46,2% as opposed to the 25,7% of the TI group.

4. Discussion of the results

4.1 Introduction

In the discussion of the research design it was pointed out that the observed differences between the PI and

TI groups as regards the dependent variables (assignment marks, examination marks and student satisfaction) can tentatively be attributed to the differences in the two teaching methods. This should be further explained.

Under ideal experimental conditions the random sampling method is preferred. In this investigation the researchers had, for many practical reasons, no control over which of the subjects were to be allocated to which of the two experimental groups. To attain the ideal of random sampling would have implied that in the same academic year some of the students would have received PI and others TI. The university authorities rightly felt that this procedure could be academically detrimental to those students receiving TI only.

It was hence decided to make use of two groups of students who studied Psychology in two successive years, the one group receiving PI and the other TI. Applying this procedure obviously created a problem as regards the "equivalence" of the two groups. The way in which equivalence was estimated ex post facto was explained in the discussion of the research design.

In view of the above it should be noted that in this type of investigation no direct cause and effect relationships can be indicated. Hence our emphasis on a tentative handling of the data.

Our assumption as regards a "workable equivalence" between the two groups is based on the fact that the effect of two important nuisance variables (mental alertness and reading comprehension) on the performance of the two groups was identified. The fact that there were no significant differences between the PI and TI groups with regard to these two variables (See Table 10)

strengthen the assumption of a "workable equivalence".

We furthermore also assumed a workable equivalence between the two total student groups who wrote the same examination in the two successive academic years. A comparision of these two groups yielded the following result: The avarage of the PI group ($n = 2033$) was 48,1% compared to the 51,5% of the TI group ($n = 1703$). This difference is statistically significant ($t = 6,03$; $p < 0,05$).

The question, however, is whether this result is "meaningful" in view of the fact that it represents a shift of only 3,4% in favour of the PI group. Stated differently: Was the implementation of a PI course worth it (cost-wise and labour-wise) in view of the slight increase in the average examination mark of the PI group?

An answer to this question can only be obtained if the results in Table 1 are broken down and interpreted in terms of homogenous subgroup comparisons.

4.2 Ethnic group, assignment mark and examination mark

Tables 2 and 3 indiciate that the white students benefited from PI, but not the black students.

One should be careful not to interpret the results in Tables 2 and 3 only in terms of the results in Tables 11 and 12. The results in Tables 11 and 12 indicate that the black students' scores on the cognitive measuring instruments (mental alertness and reading comprehension) are significantly lower than that of the white students ($t = 7,52$; $p < 0,05$ for mental alertness and $t = 4,22$; $p < 0,05$ for reading comprehension). Viewed superficially it would seem that the black students have an "intellectual lag", and that this lag manifested itself in their low

scores in the assignments and in the examination.

The following considerations preclude such an oversimplified interpretation:

The cognitive measuring instruments for mental alertness and reading comprehension are not really "culture-fair". Culture-fair tests are "ideal" types of measuring instruments which allow comparison of persons of different cultures and environmental backgrounds. For a test to be culture-fair implies, moreover, that all subjects have had equal opportunities to acquire the necessary knowledge, skills and even the necessary motivation to perform well in a test.

It should also be noted that the tests for mental alertness and reading comprehension are essentially achievement tests, i.e. answering of the questions and the score that is obtained depend on what the person has already learnt through formal education and on the skills developed through such education.

4.3 Matric performance, assignment mark and examination mark

According to Table 6 the white students who obtained a first class matric with university exemption did not benefit significantly from PI. It is estimated that this group comprises about 16% of the Psychology I student population. The fact that these students did not really benefit from PI does not necessarily discredit the value of PI.

It is possible that these students acquired over many years of schooling certain constructive study habits and study attitudes and that they merely applied these habits and attitudes in studying Psychology I. Stated differently: These students would have performed well independent of the nature of the

teaching method. Research by Du Toit (1972) and Bruwer (1974) indicates a high positive correlation between study habits and attitudes and academic achievement at university level. Study habits and attitudes are considered to be the most important non-intellectual factors in the prediction of academic success. Unfortunately no information concerning this group's study habits and study attitudes was obtained in this investigation.

Tables 6-9 indicate that this group (first class matric) obtained the highest marks of all subgroups in the assignments and in the examination. It is obvious that their higher intellectual abilities as measured by the two "cognitive" tests (See Tables 15-18) played an important role in producing this result.

From tables 7 and 8 it is clear that the students who obtained a second or third class matric with university exemption, benefited most from PI. This group represents about 66% of the Psychology I student population, and it seems fair to say that there is a decisive advantage in having PI for this type of student.

According to Table 9 the students who obtained matric without university exemption or conditional exemption, gained no significant advantage from PI. In view of this result and in view of the information in Table 18 which indicates these students' low scores on mental alertness and reading comprehension, the following question begs an answer: Are these students (they comprise about 17% of the Psychology I student population) really "university material"?

For many obvious reasons this question touches a sore point. In a sense it gets at the heart of the notion that Unisa is the university of the "second chance". How far should we take this notion?

If we place no limits on student numbers and if we fail to apply more strict criteria, we may be fostering the notion that Unisa is a university of the "off chance"; hence creating false expectations in many of our students. What are our responsibilities in this regard?

4.4 Student satisfaction

It is clear from Tables 19 and 20 that student satisfaction in the PI group differs almost dramatically from student satisfaction in the TI group - a shift from a satisfied TI group to a highly satisfied PI group.

This result accords with the findings of Kulik, Kulik and Carmichael (1974) and Kulik, Kulik and Cohen (1979) that the implementation of PI techniques fosters student satisfaction, interest and active participation despite the fact that PI generally demands much more effort from students (See Table 21).

5. Conclusion

It was repeatedly stated in this report that the results should be tentatively evaluated. All in all, however, it seems fair to state that the implementation of PI had decisive advantages for a large group of Psychology I students (about 66% of the total group). For certain subgroups PI offered no distinct advantages.

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ACCESS TO THE ORIGINAL
THE POTENTIAL OF A UNIVERSITY ART COLLECTION
IN DISTANCE EDUCATION

Lucy Alexander

In the course of my reading for this paper, it has become increasingly apparent to me that the University of South Africa is to be praised for collecting original works of art over the past 25 years. Championed by Professor Karin Skawran, Head of the Department of History of Art and Fine Art, a relatively modest budget has been used to build a significant art collection primarily for the use of the students, but also for the education and enjoyment of UNISA'S staff and general public.

The scope of the Collection has been determined by the needs of the students, and works of art in all media by both Southern African and international artists make up the complement of over 600 works. Part of the Collection is presently on view in the Art Gallery which was opened in 1985.

When I first focussed on the relationship of the "laboratory situation" of an art collection in the context of a distance learning university, I wondered whether I might not be denying the validity of the Collection as well as my own (as Curator of that Collection). This I considered in the light of 38% of the total of the Fine Art and History of Art students registered this year, being resident too far from UNISA to make any effective use of the Collection and Gallery.

The logistical problems are real, but it seems to me that the mere existence of this resource for students in the PWV[1] area will encourage students further afield to seek an equivalent facility in their own centre. I intend to suggest possible ways of supplementing their resources later in this paper.

The intimate connection between many universities and fine original collections of works of art has its origins as far back as the 17th century at

Oxford, when John Tradescant Junior's collection passed to Elias Ashmole: this was to become the core collection of the Ashmolean Museum in 1683. The earliest university collection in the United States was founded at Yale in 1832 and now comprises some 50,000 objects, assuming a position among the best public collections in America. The encyclopaedic range of its collection is unusual by any standards, but it has particular strenghts - in American decorative arts, early Italian, British and twentieth century art. Even an extraordinary collection like this one cannot fulfil every student's needs with regard to providing relevant original material for research; it does, however, become viable for prospective students to select a course and a Department of Art History according to its Collection. This underlines the potential importance of such collections to any academic activities concerning the history of art.

It is peculiar to art history that a variety of other disciplines such as literature, sociology, technology, geography, religion and philosophy may have bearing on it, and lead the scholar away from the work of art itself; this tendency could be counteracted by contact with a collection of original works of art.

Another potential benefit to a department of art history is the often difficult but ultimately beneficial relationship between the art historian and the museum curator. The art historian and museum curator have tended to place differing emphases on the original object and on established theory. "In museums it is hardly ever possible to study problems to that point of no return when useful work becomes a complicated academic exercise. [As a result,] "...museum scholarship is seldom theoretical"(2). On the other hand contact with the museum researcher and the documentation of specific works of art may offer the university academic "documents" with which to confirm old theories or to devise new ones.

Erwin Panofsky in comparing the art historian to a medical researcher and the museum curator to a diagnostician writes: The museum curator "deliberately limits his contribution to scholarship to identifying works of art with respect to date, provenance and authorship, and to evaluating them with respect to quality and condition; [...the art historian tells us] about the formal values of the picture, about the interpretation of the subject, about the way it reflects the cultural attitude... and about the way it expresses [the artist's] personality."(3)

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Bearing in mind that both these activities are essential to scholarship one can safely assume that collaboration can only be of benefit to academics and to their students. At Yale, this collaboration is particularly significant, where a staff of 19 paid professionals is employed by the museum, some of whom hold dual appointments and teach in the Department of Art History. Other members of the art history staff are appointed to honorary curatorships for short periods, all of which has assisted in facilitating a co-operative relationship between the two parties. The collection has also been made easily accessible to the students and staff with a minimum of red-tape, an advantage which cannot be under-estimated in promoting the use of original objects.

The entire discipline of art historical research was revolutionarised by that chemical-mechanical creation - the slide, and improvements in their colour quality. André Malraux's term "the museum without walls" describes the wealth of image resources provided by this and other media: remote monuments, frescoes executed on high ceilings, painted or sculpted masterpieces which never leave the precincts of the museum can, with the flick of a button, be flashed onto a lecture theatre screen.

The advantages of this practice far outweigh any disadvantages, but the potential does exist for all-too-neat conclusions to be drawn, and the complexity of parallel currents in culture to be underestimated. If a period of art history is interpreted only via the "tried and tested" example of the so-called "great artists", the breadth of artistic activity will be ignored. However, if those lesser works by lesser artists, which clutter the stores of every art museum are used to provide a counterpoint for the masterpieces, a more truthful impression may be achieved, as well as a better understanding of why certain works of art have come to be considered "greater" than others.

This is demonstrated by a barely known work by Judith Leyser (1606-60) "Boy and girl with cat and eel", who was, until the Feminist art historians began to draw attention to her work, not considered to be much more than "a pupil of Frans Hals." Her popularity in her time and her distinct style which is more linear and precise than that of Hals as well as her originality of conception were for centuries overlooked in favour of her "master's" work.

The tendency to concentrate on the so-called "great artists" is common to most linear interpretations of art history, and is definitely facilitated and encouraged by the slide. There is no reason why a broader view of that period could not be undertaken with slides - but it seldom is, because of convenience, and one's tendency to choose the most explicit example.

The slide as reference point has other disadvantages with regard to the distortion of colour(4), the distortion of size(5) and its inability to convey the spatial qualities of sculpture and architecture. The student cannot avoid these problems but can carry an awareness of the actual experience of the original to other works of art. The quality of the painted surface, the use of a particular brushmark, subtle translucent colour effects created with glazes and the richness of the patinated surface of a bronze can seldom be conveyed by a slide or reproduction. The presence of formal qualities like these, which cannot be reproduced, might actually be a determinant for their being included in a collection of original works of art.

Object-centred learning has a particular potential for the undergraduate student. Essential in this proposal is an acknowledgement of two kinds of knowledge termed by Plato "dianoia" and "nous". "Dianoia", a precondition of "nous", simply denotes knowledge that things exist, while "nous" implies an understanding of those things. "Inquiry-educational methods"(6) are becoming increasingly popular in certain schools, but even at university level an understanding of the artist's technique would be an advantage. In viewing a woodcut print, a full perception gained from the original work of art concerning its fine fibrous paper support, its multiple layers of overlaid colour and its consequent evocative effect would probably give the student greater freedom to interpret it than two or three interpretations by other writers. This fundamental potential of proceeding from the specific to the general is but one of the philosophic precedures open to the student, but it is a valuable one. I do not wish to underestimate the importance of the culturally defined conceptual framework of works of art in the light of which all objects must be seen, but simply to assert the importance of primary experience in the process of interpretation.

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Dr André de Villiers, Director of the National English Literature Museum in Grahamstown writes: "Museums are surely the resource in which education for understanding may most trenchantly be offered. Understanding emerges from confrontation, participation, discovery; from direct experience; which makes clear as no words can...[Further on he proposes that] if this is true of our [the museums'] potential... then they have a vital role [to play] in the South African education structure".(7)

Almost too obvious to state is the potential of object-centred teaching in disciplines where most literature appears in the student's second language, as might be the case for the Afrikaans, Zulu or Sotho speaker. The difficulties created by language style, particularly when it comes to art-historical texts, could be to an extent counteracted by an improvement of the student's understanding of the object under discussion. Even when the student's own language is being spoken, a verbal description of a painting can be dry and misleading. A slide may distort the actuality but draw one closer to the object. Confrontation with object is undoubtedly the essential experience.
Keith Dietrich's portrait in the UNISA Art Collection demonstrates this point: a verbal description fails to convey the painting's immediacy. For example: "the painting executed in a realist technique, includes three black women larger than life-size, who direct their gaze at the viewer. This confrontational quality is accentuated by the subtle bowing of the canvas, and their displeased facial expressions."

The description would gain in immediacy in combination with the slide, but the realism of execution which carries part of the work's impact is only truly experienced when one realizes that it is a painting on canvas and not a photograph as might be suggested by the slide.

The potential of the original is too often not recognized by educators who fail to use the resources available to them in the public museums, and this attitude is underlined by the fact that museums are still not accorded the official status, in South Africa, of educational institutions.

The acquisition of "nous", or understanding from exposure to the original object is obviously not a possibility confined to the fine arts, but is equally applicable to anthropology, history, entymology and many other disciplines. Valuable documents of non-literary societies are essential to the unravelling of their cultures. A topical example, specific to our

current situation in South Africa, serves to demonstrate the importance of material remnants of culture, to the documentation of the early history of this country. The physical evidence of villages, burial sites and iron-smelting furnaces (dating back to AD 350-600) discovered in a number of areas of the Transvaal over the past 20 years, necessitate a reassessment of the early history of this country. The distorted arguments which have been used by political historians can thus be debunked via this original material.

One last aspect of object-centred learning which I have not mentioned is the unarguable potential of the original object to awaken interest and indeed a love of the objects under discussion, a relationship which is more likely to evolve through contact with the original object. A professor at Yale University, named Charles Montgomery, (who would perhaps be frowned upon by fellow curators) insists that his students actually use mugs and tankards in the Garvan Collection of American decorative arts, in order "to appreciate the reality of these objects and the culture they reflect."(8)

Having "hammered home" my argument for the use of the original object in the discipline of art history, I shall now address the pragmatic aspects of the university art gallery in the context of a "distance-education institution" like UNISA. The Gallery is inaccessible to 38% of art students for most of the year, although many senior students attend group seminars at mid-year. Exhibitions are arranged to coincide with student visits which will take place seven times this year. It is felt that Fine Art students benefit from contact with original works of art which are a stimulus for productivity and assist them in understanding technical processes and alternate conceptual approaches.

Exhibition themes are chosen with a view to the students' needs and it is becoming apparent that university art galleries and collections can and should, adopt a different approach to exhibitions and to that of the municipal and national art galleries.

An educational orientation makes good sense in the university environment and also frees the gallery from the more formalist connoisseur-approach to viewing art, which often results in the isolation of the art object except for minimal information typed on a discreet label card. An

educational approach need not necessarily take the form of technical displays, but can be an exposition of alternate renditions of a subject like portraiture; it could comprise the work of an artist like Käthe Kollwitz and concentrate on her iconography; alternately an exhibition of a contemporary nature might use as its criterion variety of medium or the challenging of preconceptions of form and medium in sculpture.

For the student situated out of reach of such exhibitions a number of services (though not substitutes) are made available: exhibitions are documented and slides or videos, may be borrowed from the Art Gallery. Slides of works in the permanent collection can be requested and appointments to see works in the store can be made at any time.

Assignments in history of art often require direct study of works in the UNISA Art Collection, but students are given the choice to analyse works of art from public collections in other centres.

"De-centralisation" of the Collection is the other course which could be taken in making it more accessible to students. Here expense and the safety of the collection itself is at stake.

A travelling exhibition drawn from the Collection is planned, which will be offered to public museums in other centres, but this will only provide for students registered during that year. The other possibility is that an area of UNISA's branch offices be equipped to deal with the conservation and security requirements of the Collection, and that someone be appointed in that centre to handle such mini-exhibitions. Handling is in fact the most dangerous operation in dealing with works of art, and if the employee is not trained in certain practices or is unconcerned with these practices, the collection could suffer damage. Members of the fine art and art history staff could be responsible for these activities, but first suitable venues would have to be arranged in Cape Town and Durban, and costs would be considerable.

A third solution exists. The Whitney Museum in New York has de-centralised its exhibition venues. Two commercial buildings situated in very central positions for the business community and commuters were built to include small art galleries accessible from the pavement. The Whitney at Philip Morris Bank is situated opposite Grand Central Station and the glass atrium designed as an exhibition space is equipped with closed

circuit television for security, a coffee-shop, chairs and tables. Lunchtime concerts and changing exhibitions draw the public in, between the hours of 07h00 and 21h30 at night. The association of Philip Morris Bank with the Whitney is prestigious for the bank, who fund catalogues and exhibition expenses generously. Such an arrangement does not seem impossible in Pretoria, Cape Town or Johannesburg and collections like UNISA's and those of other museums could be made more accessible to the public. Venues like this one clearly hold none of the threshold fear which museum buildings so often evoke, and thus both UNISA's students and the public could be better served.

Although serving our Departmental students remains our primary aim, UNISA's "non-residential" campus is as you know frequented by many students and staff members. We do therefore have a large local public to serve who can be encouraged to enjoy the Art Collection. In this context the Gallery assumes in part a role in so-called "liberal education."

Ralph Allen suggests a very ambitious function for campus art collections, namely "to awaken students to art as life - not as commodity - and to interpret art so that they might understand what it means in terms of their lives."(9) Another commentator sees the fostering of an interest in art as a precondition for encouraging students to "accept a role as creative participants in shaping their environment."(10)

A more pragmatic view is expressed by Dr André de Villiers who comments on the potential of the museum in the education crisis which we face in South Africa today. He suggests a change of role for the museum in South Africa: this he feels could be implemented by addressing the importance of the primary object and the understanding which it may impart. He advocates closer contact between universities and museums and a sharing of expertise. Finally he suggests that a research unit should be established to explore the more effective use of museum material.

Dr de Villiers refers to the failure of our museums to address the needs of our society. He writes: "I put it to you that for nearly three-quarters of South Africa's population museums are at best otiose, at worst monuments of privilege, a waste of money, institutionalised proof of white control, ownership, of manipulation of the environment and human culture."(11)

Compound this perception with the fact that creative activity, and the opportunity for contact with others' creativity has been lost for most black South African adults and their children. With the dearth of art teachers and training facilities for them in this community, the urgency for art museums to play a role in this field should be felt. The attitude of the majority of white South Africans to art, in spite of exposure to it, reiterates this pressing need.

If the university art gallery has the service of the public as its secondary aim, it could in fact be one of the prime testing-grounds for the presentation of original material in a manner which is accessible to a broader section of society. Such methods should obviously not dilute the content of the exhibitions for the art student, but innovation in this field could be the key to integrating creative activity and thought into the experience of all South Africans. As centres of research, university art galleries could become both adventurous in their programmes and in their presentation. Formalized research could be undertaken, if a research unit were established, through which programmes could be evaluated.

Time does not allow me to speculate on how such community education could be achieved. I do however believe that the university art gallery and indeed UNISA Art Gallery could play a valuable role in making the resources of original material accessible and desirable to future teachers, professionals and the public.

American museologist, Alma Wittlin, views the establishment of museums in the 18th century as a reflection of the spirit of enlightenment "which generated enthusiasm for equality of opportunity."(12) During the 1930's in America when museum funding and the expansion of collections was most threatened, educational programmes flourished in response to the need to occupy the unemployed. Museum workers also responded to the oppressive political ideas which threatened democratic institutions.

An advocate of the museum's role in education, T.R. Adam, wrote in that period: "If critical intelligence is to survive in a civilisation flooded with propaganda and intellectual authoritarianism, the longing for first-hand information must be kept alive...."(13)

Out of that period in America grew the new identity of museums as educational institutions. One can hope that out of this period in South Africa a similar identification of needs will take place, allowing our museums and their collections to become more effectively involved in the educational task ahead.

ENDNOTES

1. Pretoria - Witwatersrand - Vereeniging.

2. John Pope-Hennessy. "The Contribution of the Museum to Scholarship." Papers from the Seventh General Conference of ICOM, pp. 35-36.

3. Erwin Panofsky. Meaning in the Visual Arts. New York: Doubleday Anchor Books, 1955, pp. 19-20.

4. Two slides of the same painting are to be projected showing variations in colour.

5. Two slides are to be projected, the one of a very small sculpture, the other a large sculpture. The slide indicates nothing of this scale variation.

6. This term is used by Jeanett Hauck Booth, Gerald H. Knockover and Paula R. Woods in Creative Museum Methods and Educational Techniques. Springfield, Illinois: Charles C. Thomas Publisher, 1982, Chapter 2, to describe a method of presenting museum material to scholars via questions for which they must discover answers in the exhibit.

7. A.R. de Villiers. "Museums and Universities". SAMAB. Vol. 16, no. 8, 1985, p. 373.

8. Barbara Y. Newsom and Adele Z. Silver. The Art Museum as Educator. Berkeley: University of California Press, 1978, p. 522.

9. Ralph Allen, quoted in Blanche Carlton Sloan and Bruce R. Swinburne. Campus Art Museum and Galleries: A Profile. Carbondale and Edwardsville: Southern Illinois University Press, 1981, p. 14.

10. Margaret Mahoney, ed., The Arts on Campus: The Necessity for Change. Greenwich, Conn.: New York Graphic Society, 1970, pp. 24-25, quoted in Blanche Carlton Sloan and Bruce R. Swinburne, ibid., pp. 14-15.

11. A.R. de Villiers. op.cit., p. 371.

12. Alma S. Wittlin. The Museum: Its History and Its Tasks in Education. London: Routledge & Kegan Paul, 1949, p. 133.

13. T.R. Adam. The Civic Value of Museums. New York: American Association of Adult Education, 1937, p. 9, quoted in Barbara Y. Newsom and Adele Z. Silver. op.cit., pp. 15-16.

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AN EXPERIMENTAL MODEL FOR DISTANCE TEACHING - A CASE STUDY

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1. Background

1.1 Starting Point

This experiment was started because of the general problems encountered by the Department of Criminology in teaching the subject at a distance. The main aim of the experiment was to develop a distance teaching model which would satisfy most if not all of the academic and research needs of the first-year student at the University of South Africa. To achieve this, the Department of Criminology and Dr P G du Plessis - then of the Bureau for Teaching Development - worked closely together in the development and implementation of the project.

1.2 Goals

The process started with the development of the academic and research goals the Department of Criminology set for its students. We started to work downwards from the D Litt et Phil to the goals set for the first-year course. The goals regarding the academic skills were as follows: master criminological concepts; achieve insight into the general structure of the discipline (eg. the criminological perspective), the fields of specialization, the crime explanation perspective and the research (methodological) perspective. The study and research goals set by the Department were that students should be able to

write an essay-type assignment when the following are given: the title of the assignment, the sub-titles, three sources, the page numbers in the sources, the length restriction, and the Harvard reference technique.

1.3 Target Group

The next step was to analyse the target group. This consisted of 72% whites, 17% blacks, 6% Asians or Chinese, and 5% coloureds. Because the majority of the population of 848 students were whites, they were selected as the target group. The following characteristics of these were available: 57% were males, 68% followed the course in Afrikaans, 63% were 30 years and older, 56% had studied at a university previously and 47% had full matriculation exemption while 35% were allowed to register according to the mature-age provision (23+ years). Furthermore 61% were married. Thirty-two percent were involved in the services (16% were policemen, detectives, or in the prison services), while 31% were in the professions of which 9% were teachers and 27% in the clerical field.

1.4 Procedure

The research procedure consisted of a questionnaire posted to students during August/September to ensure that the students had worked through the whole tutorial package.

2. Operational characteristics

2.1 General characteristics

The tutorial package consisted of one study guide, three audio cassettes and two prescribed books. Initially the tutorial

matter in the study guide was subdivided into study units, while later on it was omitted. The degree of difficulty of the study units was gradually increased with, at the same time, less guidance being provided. Guidance regarding academic and research skills was given at applicable and predetermined times in the study guide. Self-tests were provided at the end of study units. The answers of these were given on the cassettes, their main purpose. In the beginning students were referred to the cassettes in the study guide and from the cassettes they were referred back to the study guide. As students progressed and became familiar with the technique, this type of cross referencing was discarded.

2.2 Characteristics of the study guide

Only one study guide, comprising 263 A5 pages was provided. It started with an exposition of the recommended study method. The study guide consisted of 10 chapters, each subdivided into a total of 48 study units. The register of the first study units was relatively low, with the standard increasing fairly rapidly. Three types of self-tests were utilized at the end of the study units: to test knowledge, insight and application. At the end of the first half of the course (5 chapters) the number of study units was decreased, and finally omitted from chapter 7 onwards. At this stage it was expected of students to work on their own. As a matter of fact, chapter 10 consisted of <u>one</u> single page, in which students were provided only with the appropriate instructions. The study guide also had an appendix in which some of the work which had to be done for chapter 10 was incorporated.

The study guide was integrated with the prescribed books (of which 141 pages had to be studied in conjunction with the 263 of

the study guide) so that the one could not be utilized without the other. The instructions given in the study guide were printed in italics.

A specially designed study unit taught the students how to make proper summaries. The tutorial matter was printed on the left hand pages, the summary on the right hand pages, and the explanation of the summary was discussed on the cassettes. At the start of this particular section, the rules for the making of scientific summaries were explained.

2.3 Characteristics of the audio tapes

No tutorial matter was put on the tapes. They contained only answers to the self-tests, the explanation for making summaries and discussions of some answers. The initial conversational nature of the cassettes became increasingly formal. At the end of each discussion students were reminded by means of a "gong-sound" to return to the study guide before listening further. Three cassettes, with a total listening time of three hours were used.

Later in the year (August) another tape was added. This one was directed at the preparation for the examination. It was accompanied by a mock examination paper. On one side the Student Service Bureau discussed preparations for the examination and on the other side the structure of the "mock" examination paper was analysed. The contents of the paper were also explained and linked to the tutorial matter.

3. Components of the model

3.1 Aspects of the goal model

Specific and pragmatically-orientated goals were developed, based on the target group. These were incorporated into the goal progressions of the presentation of the tutorial matter.

Matters of concern were the vocational relevance of the discipline, interest groups or background of groupings of students relatively heavily represented in the target group. Therefore attention was given to appropriate *capita selecta* in the utilization of examples to illustrate points or practical problems which students had to solve in the application of certain theoretical aspects. Categories such as race, sex, language of study, and last educational institution (as well as marriage status and vocation) were considered.

3.2 Aspects of the methodological model

The students were orientated towards the structure of the tutorial package, the study strategy and the study program. The study guide, the audio-cassettes and Tutorial Letter 101 started off by telling the students precisely how they should start and how they should proceed with the study. The tutorial package was developed for about 293 study hours and consisted of 263 pages from the study guide and 141 from the prescribed books.

A dialogical approach was followed which became progressively more formal. Instructions were given by means of italics in the study guide as well as through the personal contact obtained by means of the cassettes.

The advance organizers (following Ausubel) as well as the

principles of concentric development of tutorial matter were applied. Tutorial and study centered didactic principles were also applied, and diagrams were utilized - especially in the self-tests.

An adopted sound workbook method was also utilized. All the tutorial matter was in the study guide, the prescribed books and in some tutorial letters. Answers on the self-tests and commentaries were limited to the cassettes.

A specially designed study unit was designed to teach students to make scientific summaries. The tutorial matter was given on the left hand side of the pages and the summary of it was done on the right hand pages, while explanatory comments were given on how it was done, on the cassettes. The rules which were applied by doing this, were given in italics directly beforehand.

During August another audio cassette was forwarded. It contained information regarding the examination. One side contained general examination study instructions. The other side contained a discussion of a "mock" examination paper which accompanied this cassette.

3.3 Aspects of the evaluation model

Objective self-tests were set at the end of the study units. We started decreasing them when students had completed half of the course, after which more attention was given to the summaries.

The following assignments were set as part of ongoing evaluation: assignment 01 consisted of 25 multiple choice questions, based on the first five chapters of the study guide. This was accompanied

with a summary of 600 words in length, also based on the study guide - in this case from the first two chapters only. The second assignment consisted of 50 multiple choice questions and a 1200 word summary from the second part of the study guide. The students had to pass both assignments (50%) to obtain sufficient credits for entry to the examination. Those who did not pass one or the other were offered another opportunity: either to repeat the one failed, or to submit one set by the lecturer.

The examination consisted of three sections. From each section at least one question was compulsory. Section A (compulsory) consisted of 25 multiple choice questions. Section B consisted of three questions from Fundamental Criminology, of which students had to answer at least one. The same applied to Section C, which comprised the fields of specialization. It should also be noted that the questions in Section C consisted of two sub-sections (12 1/2 marks each) to accommodate all the fields of specialization. A fourth question could be chosen from sections B or C.

4. Responses of the research group

4.1 Experimental group

The experimental group consisted of first-year students in Criminology and included the groups registered for 1984, 1985 and 1986, with a total of 1533 respondents. Some important biographical data was captured: 57,71% were males and 44,29% were females; 42,01% took the course in Afrikaans and 57,93% in English (the two official languages). Furthermore, 57,73% were whites and 22,96% were blacks. The rest were coloureds (3,91%) and Asians (15,26%).

Because some students did not complete all the questions, some frequencies are missing and so the % does not always add up to 100%.

The main occupational groups were 8,9% from the Police, 13,1% clerical, and 26% were from the educational occupations.

4.2 Study guide

Regarding the didactical components incorporated into the study guide, the students responded as follow: Thirty three percent said they meticulously followed the instructions in the study guide, that is, they listened to the cassettes where and when requested. Thirty seven percent said that they first completed a whole chapter before turning to the self-evaluation questions and listen to the commentaries on the cassettes. Nineteen percent said they first studied a few study units before listening to the cassettes. Eight percent said they listened to the cassettes only sproradically. Eighty-four percent said they did not find the study guide too structured and that it gave them enough scope to use initiative. Seventy three percent indicated that they did not find it frustrating to alternate between the study guide and the cassettes.

4.3 Scientific summaries

The responses of the students on the specially designed study unit to help them with the making of scientific summaries, are of special interest. Eighty-three percent indicated that this study unit (2.1) was worth following (and adequate) and eighty-four percent said that it helped them to satisfy the requirements of the essay-type assignments. Eighty-six percent said it helped

them to write the summaries (requested in the study guide) which they did not have to send in. Still in connection with the summaries, 56% of the students indicated that the summaries in the appendix of the study guide definitely helped them to improve their skills in writing summaries, while 35% said it helped them slightly. This should also be seen against the background of the fact that 26% of the respondents completed all and 71% completed some of the summaries from the prescribed books as requested in the study guide which they did not have to send in.

4.4 General standard

Asked to evaluate the study guide on a scale of excellent, good, below average and poor on a sixteen point scale, students responded with a 92,54% positive response in the categories good and excellent. The evaluation categories included comprehensibility, level of language, definition of technical terms, completeness of the study guide, length of study guide, objectives of each study unit, exposition of the subject matter, synopses/summaries, connection with prescribed books, references to other literature, emphasis of important sections in the study guide, study guidance, structure of the subject and interrelatedness, bearing on real life, connection between study guide, assignments, cassettes and prescribed works as well as the overall standard. The responses in the below average and poor categories in connection with the above-mentioned totalled 7,38%.

4.5 Self-evaluation tests

Regarding the didactical components connected with the self-evaluation tests, the students responded as follow: Thirty nine percent said they always completed the self-evaluation tests

before listening to the answers provided on the cassettes, while thirty-seven percent said they did so often and 21% said they did so sometimes. Two percent said they never did so. Seventy-three percent said they were satisfied with the (present) form of the self-evaluation tests and 27% said they were only partially satisfied with them. Ninety-eight percent said the present form of the self-evaluation tests tied in properly with the subject matter, 79% said so in connection with the assignments and 78% responded positively regarding the linking of the study guide with the prescribed books. Fifty-one percent said they preferred them at the self-evaluation tests after each study unit (as done in the study guide), while 26% said they preferred them at the end of each chapter. Eighteen percent indicated they wanted a separate booklet with the self-evaluation tests. Still in connection with the self-evaluation tests, the respondents indicated that 58% preferred the answers to be in writing instead of on the cassettes, while 21% said no and 20% were indifferent. Seventy-five percent said they found the rating scale at the end of each self-evaluation test useful for assessing their progress.

4.6 Cassettes

Regarding the way in which the cassettes were utilized, the students responded as follow: Thirty-nine percent said they did not prefer the voice of a professional commentator on the cassettes, while 20% said they would prefer such a voice and 39% were indifferent. When asked whether they would prefer the commentary on the different sections in the study guide to be presented by the lecturers concerned, 61% answered in the affirmative, while 31% were indifferent, and 6% said no. Asked whether they would prefer the commentary in writing rather than by means of the cassettes, 47% said yes and 34% said no, while

18% were indifferent. Fifty-six percent said that the key words given on the cassettes assisted them a great deal in the writing of some of the summaries and 39% said they helped them a little, while 5% said they did not help them at all. Ninety-eight percent of the respondents responded with "good" and "excellent" when asked how the guidance for the examination preparation (the cassette and the "mock" examination paper) had helped them.

4.7 General aspects

Regarding some general aspects, ninety-nine percent said they rated the framework of the Criminology I tutorial package "good" and "excellent" in helping them through the tutorial matter. Forty-six percent said they would rate the Criminology tutorial package much better than those of other courses, 20% said it was slightly better, while 30% said it was just as good. Four percent rated it as slightly poorer or a lot poorer.

5. Responses of the lectures

Although the goal of the research was to get an overall view of the way in which the students evaluated the didactics of the tutorial package, a questionnaire was also given to the lecturers who presented the course.

The lecturers were questioned about specific aspects of the didactics including the following: the fact that the study guide was subdivided into study units, the linking of the study guide to the prescribed books, the description of key words, use of language, the self-tests which followed the study units, and that

the answers of the self-tests were provided on the cassettes. They were also questioned about the discussions of the summaries on the cassettes, the giving of study guidance, completeness of the study guide, interest, and the fact that the degree of difficulty of the study units was increased gradually. In all these categories, all the lecturers responded with answers in the "good" and "very good" categories.

They were also asked how they thought some aspects of the tutorial package would assist the students to work systematically, to utilize their available study time effectively, and to exercise self discipline in their study. They were also asked to indicate whether they thought the applied model would help students to work according to the program suggested in the study guide, to see whether they progressed and to understand the work, as well as whether it would motivate students to study. Here the lecturers concerned, with the exception of two, also answered in the categories "good" and "very good". One lecturer said the didactics would not help the student to work according to the program presented in the study guide (poor), while the other one was of the opinion that it would not motivate the student to study (poor).

6. Conclusion

With the aim of the development of this model in mind, namely to develop a distance teaching model which will meet the needs of the first-year distance student (while at the same time building into his thought processes the academic and research skills necessary to perform adequately at this level of tuition), the experiment can, generally speaking, be rated as a success. The

majority of students responded overwhelmingly positively concerning different aspects of the model. So did the lecturers.

Some aspects, however, need further consideration if anyone wishes to implement this model. The first concerns the use of cassettes and the indication of a substantial number of students that they would prefer the self-tests and answers in a separate study guide. The primary decision in this regard will be whether students will be allowed to have a say in this matter in so far as it can jeoperdise the research skills required at this level. Another aspect that needs consideration is whether or not to move the self-tests to the end of the chapters. This might have a negative bearing on the motivational aspects of the didactics in that students will then be confronted with a number of self-tests at one and the same time, which might have a detrimental effect on their performance in these tests.

It can, however, be stated categorically that this model was well received by students, and can therefore be recommended at this level.

Finally, I would like to thank the universities and my colleagues who made it possible for me to implement this model which was developed by dr. P.G. du Plessis - now at Vista University.

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DISTANCE TEACHING AND LEARNING: JOYFUL REALIZATION OR FRUSTRATED EXPECTATION?

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1. Intention

This introductory presentation is geared towards stimulating a discussion concerning a particular aspect of distance teaching. Therefore deliberate attempts are being made to create a sphere in which traditional ideas and stereotypes can be changed, but not necessarily discharged. Against this background apparent paradoxical and arbitrary views should be analysed.

It should also be noted that it is impossible to do justice to an important theme such as the yearnings of students and lecturers, within a time limit of fifteen to twenty minutes; hence the relative incomplete nature of this paper.

2. Introduction

Ever since medieval times, universities regarded the study and contemplation of current issues as one of its major functions. However, the study and contemplation of personal, internal problems has since often been evaded. Lecturers, for example, have always and in all respects agreed heartily that the three basic components namely lecturer, student and subject matter, could be viewed as indispensable preconditions as far as instruction is concerned. Yet, without any hesitation, unsatisfactory student results were ascribed to shortcomings in the equipment of the student, rather than the part played by either the lecturer or the subject matter.

It was generally accepted that scholarly lecturers' teachings were "inimitable" due to their "superior" knowledge with regard to their particular fields of interest; their certificates and degrees being proof of the former!

However, the aftermath of two world wars, rapid technological development, major changes in political and social orders, and especially the enormous growth of student activism since the sixties, inevitably and

inexorably compelled universities to subject themselves to introspection and to a penetrating analysis of their academic, economic and political problems. The extent of research undertaken during the previous two decades with a view to the improvement of the quality of teaching at the tertiary level, is therefore not surprising. An ever increasing number of articles pertaining to this matter has been published and the problems of tertiary education as such are frequently being discussed at confe= rences and simposia. This particular conference dealing with distance education is a striking example of the critical self-analysis which currently characterizes institutions for education at the tertiary level.

Unfortunately it seems as though this introspective contemplation is so often concerned with those student problems arising from the demand of an ever changing, essentially technocratic environment, that the unique, personal hankerings of the student and lecturer are totally neglected.

Consequently the common human hankerings of both the student and the lecturer within the context of distance teaching at a tertiary level were selected as the main theme for this paper.

In order to do justice to a discussion of this nature, it is imperative to comment on some of the concepts and basic premises on which this paper is based.

3. Hankerings/yearnings

The experience of insecurity which is common to being human causes anxiety, suspense and doubtfulness (6:11) which in turn leads to man's constantly yearning for certainty and peace of mind. This extreme craving, this intense desire to experience, to taste fulfilment, to acquire knowledge, to long for security can be defined as a hankering or a yearning. (7:75)

Hankerings differ from human needs (which are related to man's physical dimension) and to scrutinize the former, inevitably requires one, to a great extent, to venture beyond the bounds of objectivity and any scientific method. It is nevertheless imperative to take note of these yearnings in an attempt to improve instruction at a tertiary level.

4. Expectations

The expectations of students and lecturers are related to the fulfilling of their yearnings. A particular hankering could result in more than one expectation. Usually an expectation points to an assumed quid pro quo at the completion of a specific task. In this respect an expectation is a more concrete manifestation of a yearning in the form of, for instance, an action or verbal answer. The following example in this regard may be considered: A student yearns for cosmic selforientation. In order to fulfil this distinctive yearning he studies a particular part of subject matter (this constitutes his performance) and consequently expects it to enable him to get a firmer grip onto his lifeworld. He also expects promotion in his occupation on account of his improved selforientation (the quid pro quo).

5. Student

Due to the fact that the average student in the tertiary distance education situation at Unisa is 30 years of age (3:1), these students are usually labelled as "adults". However, chronological age is not and has never been a true criterium for maturity. In addition, it is most irresponsible to regard all students as having reached exactly the same level of becoming and to characterize the group as being "adult" for it is a common fact that one can distinguish amongst pre-, early, prime and advanced adulthood, or at least between a youth with an obligation to life, and full adulthood. (7:37)

At most it could be maintained that students no longer are subject to compulsory schooling but have a responsibility with regard to life (7:38) and that it is the responsibility of the lecturer to be conversant with the degree in which his student has reached or extended his or her adulthood.

The word student is derived from Latin and denotes "going or rushing forth" (9:13). The primary quality of a student, in accordance with this definition, is therefore that he must rush forth in his attempt to acquire greater personal adequacy and a better quality of living by means of his studies. As it were he has to reach out to what he ought to be.

6. Lecturer

Except for additional professional knowledge no fundamental difference exists between lecturer and student; in fact, most lecturers are lifelong students, whether they are formally registered or not. The distinguishing factor between a lecturer and a student in the teaching situation, is the fact that the lecturer initiates the dialogic relationship and acts as senior adviser. This implies that instruc= tion at the andragogic level includes more than the mere conveyance of knowledge - it rather points to accompanying the student towards self-discovery of knowledge.

7. Tertiary

A tertiary level presupposes two preceding levels namely a primary and a secondary level. In other countries these two levels are not always clearly distinguished. In the RSA they are distincly characterized and defined. Any vocationally oriented education offered beyond senior certificate level therefore qualifies to be classified as tertiary education. (1:3)

It is important to realize that the concept tertiary does not only refer to universities, but also, for example, includes technikons and the different colleges related to state departments such as the Railway's Training College, the Military Academy and teachers' and nurses' training colleges.

8. Distance education

The following question is appropriate : when does tuition become teletuition? Or differently formulated : is there any real difference between tuition and teletuition?

Based on the assumption that tuition on the andragogic level includes mutual support in a dialogic relationship directed at the gaining of knowledge, it can be postulated that no fundamental difference exists between tuition and teletuition. It has to be admitted, though, that distance teaching demands more of both lecturer and student in order to ensure effective and meaningful communication.

9. The universal human yearnings of the student and lecturer (7:71-86; 5:68-78)

The yearnings of the student and the lecturer can only be distinguished in an artificial manner - they are by no means divisible entities. All human yearnings are intimately related and to separate them amounts to nothing less than the division of a basic, primordial human unity. To facilitate discussion, an attempt is nevertheless made to define some of the yearnings which are characteristic of both students and lecturers.

Firstly, the student yearns for cosmic selforientation. Events such as entering a profession or the marital state are often accompanied by great tension, emotional upheavals, conflicts, disillusionments and frustrations. In addition, the contemporary social order is characterized by instability. As a result of all these forever continual changes the student always finds himself facing questions pertaining to the meaning of his personal existence. Questions such as: "Who am I?", "Who should or do I want to be?", "What makes my life meaningful?", "What part do I have to play in my particular situation?" and "How should my attitude towards life and my lifestyle change in order to be able to cope with changes in the community?" are posed. The student is therefore constantly involved in determining his perspective towards himself and the world of objects and people.

What has thus far been stated concerning a student's yearning for cosmic selforientation naturally also applies to the lecturer. It is often said that the more one knows, the more one realizes how little one knows. And since the knowledge and experience of the lecturer is usually far greater than that of the student, it seems fair to assume that the lecturer is much more conscious of man's inability to keep track of changes pertaining to his own lifeworld.

Secondly, the student yearns to broaden his intellectual horizon and enrich his mental capacity. The miracle of the human existence leaves man astonished and motivates him to continually realize his thinking and seeking abilities. It creates an inappeasable curiosity. Apart from the fact that the student attempts to gratify his unquenchable curiosity by means of enlarging his intellectual frame of reference he

also realizes that this could contribute practically towards his occupational success.

The lecturer, on the other hand, is a lifelong student. (2:133) The more he knows, the more he wants to know. He, too, yearns for the enlargement of his intellectual horizon and mental enrichment as the result would be, amongst others, the fulfilment of personal human dignity which is reflected by living up to the true requirements of his occupation. Intuitively the lecturer also realizes that the student expects him to be the senior adviser and companion on the path to an unknown future.

The broadening of his intellectual horizon is therefore not merely a personal yearning of the lecturer but also portrays an answer to the demands of students.

Thirdly, one could state that a student yearns for the involvement with a human person. Besides being constantly engaged in becoming what he is meant to be he finds himself confronted with an obscure future. He therefore needs a human fellow-being. After all, man's existence is an existence characterized by a dependence on others: man only realizes himself through others. (7:15)

This yearning also applies to the lecturer. The student also has the ability to influence the lecturer in a correctifying manner.(4:43) Yet, quite often the lecturer has to take a class in lonely isolation as students keep "the professor" or "the doctor", or rather, the "absent-minded professor" or "the mad doctor" at a distance. They refuse to accept that, behind the title, a human being with a yearning for the involvement of a human person, is to be found.

Closely related to the yearning for a fellow-human being and humanness lies the student's yearning to determine whether he is welcome in the lecturer's presence. Only when stark officialdom and businesslike observance of rules and conventions are substituted by humanness, benevolence, approachability and accessibility, a student feels welcome. This does not at all imply that a lecturer has to be familiar. Familiarity leads to a violation of the necessary distance

between lecturer and student and could lead the student to believe that everybody is equal. It is true that lecturer and student are of equal dignity, but they certainly are not equal: it is the in= equality of people which makes accompaniment possible and essential. To make a student feel welcome implies the maintenance of equal dignity in inequality which is a prerequisite for sympathetic authoritative guidance.

The student's yearning for the involvement of a human person also implies that he wants to know whether he has been noted in his particular si= tuation and whether he would be provided with an opportunity to take a personal stand. Sound dialogue will never flourish if the lecturer ignores a student or refuses to hear his opinion. It would only make the student feel like an uninvited intruder which in turn would result in his experience of outright rejection.

Fourthly, the student yearns to be respected as a bearer of dignity. To respect the dignity of the student means to recognise his ideas, feelings and potential and not to subject him to becoming a mere object. Although evaluation and research are indispensable for matters such as staff selection, man should never be reduced to an object, a means to an end, or a problem. Only too often students at tertiary institutions are treated in an "objective" and "scientific" manner without taking their humanness into the slightest consideration.

In the mind of the lecturer too, there is the desire to experience the awareness, support and guidance of the student. He also needs to be accepted as a human being, as a person in his own right, quite apart from the status which is conferred on him in respect of his position or title.

In the fifth place the student also yearns for the assurance that his intimacy will remain inviolate. In order to become involved with another person, to be able to carry on a meaningful dialogue and to be able to accept the support of someone else, will of necessity require a significant degree of personal openness, of individual exposure. Yet no student wishes his particular weaknesses or failures to be broadcast to the world. He expects his intimacy to be preserved.

The preservation of his own identity is also important to the lecturer. Lecturers are by no means supernatural, perfect beings: they also fall prey to errors and do not possess the final answers to every conceivable question. It is for this very reason that a lecturer expects, amongst others, not to be excused in a flatteringly philan= tropic manner when he has erred, but rather to have his mistakes pointed out to him in a friendly way, with due regard to his intimacy.

A sixth yearning concerns the futurity of the student. He is continually seeking for evidence that he is not merely accepted for what he is, but in fact for what he ought to be. The students' primary aim when enrolling for a course is, after all, not to learn something, but to become something. He wants to change. Only when the lecturer shows that he is not entirely satisfied with what the student is, but has great expectations for his future (that he, in other words, sees a futurity in him) will the student be prepared to venture confidently with the lecturer on his way into the unknown future. The student does not wish to be evaluated according to his appearance but rather in terms of all his possibilities.
The lecturer is, likewise, a human being who yearns to become what he ought to be. Teaching is never purely a matter of giving without receiving, of instructing without learning in return. In fact, the most successful way to assess effective instruction is to determine what the lecturer has learnt from it.(8:2) The lecturer thus also yearns for the student to recognise futurity in him.

In the final instance the student yearns to experience his own existence as meaningful. He seeks the inner assurance that he has a certain worth, that he and the lecturer have meaning for each other, that he is needed. He also needs the lecturer to confirm these facts in their dialogue.

There is also truth in the opposing situation: no university can exist without its students. To be able to be a lecturer, requires students. The significance of the lecturer's occupational task is to a large extent dependent on the presence and participation of the student in the educative occurrence. This also implies that the quality of student involvement may exercise its influence on the

quality of the lecturer's experience of his existence as meaningful.

To summarise, it appears that, in the sphere of adult existence, lecturer and student are mutually dependent on each other, not primarily for the increase of knowledge, but in order to enhance their adulthood.

10. Evaluation

Up to now this presentation was of a reasonably theoretical philosophical nature. The title, Distance teaching and learning: joyful realization or frustrated expectation? does, however, imply an evaluation. To fulfil this promise it now becomes necessary to evaluate present practice in terms of the ideals which have been postulated.

10.1 The student

If a few of the students actions are examined it becomes evident that students:

- often expect unilateral instruction. They expect diligent work from lecturers while they lean back and wait to be "transformed";

- are generally unaware of the fact that lecturers also expect to learn from them: assignments exhibit a general mediocraty, students are not prepared to prepare their work and partici= pate meaningfully during discussion classes and they unques= tioningly accept everything presented to them in the tutorial material;

- expect to be treated humanely but at the same time refuse to condone any mistake the lecturer may make; and

- often affect a superior attitude, thus refusing to accept the inequality in equality and senior guidance role of the lecturer. This leads to a refusal by the student to accept sympathetic authoritative guidance.

The question arises whether these actions accord with the year= nings and expectations of the lecturer.

10.2 The Lecturer

It also becomes necessary to question the actions of the lecturer when, for example, he:

- looses sight of the fact that his primary task is instruction and uses his study guides and tutorial letters as a vehicle to display his knowledge of the subject and his erudition in a most grandiloquent manner;

- confuses maintaining a standard with the volume of a course;

- confuses sympathetic authoritative guidance with familiarity;

- bases his instruction purely on strict scientific principles while losing sight of his task of guidance towards becoming more fully human;

- implies that he knows the final answers;

- elevates his own subject to the "sole and all encompassing aim of life" and totally negates student involvement in any other sphere; and

- shows very little appreciation for that which is worthy of praise, persisting instead in endless critisism of the student's errors.

When judged in these terms, the only conclusion which can be reached is that distance education is often degrading and inconsistant with the yearnings of both students and lecturers.

Whether this type of activity of students and lecturers is so prevalent that distance education can unhesitatingly be described as a frustrated expectation, remains to be discussed. Fact of the matter is that these actions are without any doubt part of our contemporary practice. Therefore each and every participant in the distance education situation has the responsibility of self-examination.

11. Conclusion

At this stage it is only logical to ask which recommendations in this regard could be made.

Broadly speaking there is only one solution: both students and lecturers should radically change their attitude with regard to distance teaching. This implies, amongst others, that

- institutes for tertiary education should never be exclusively geared towards purely utilitarian pragmatic problem-solving (it seems as though service to the community (which includes the moulding and accompaniment of the student) as one of the main functions of a lecturer besides research and instruction, receives too little attention);

- lecturers and students should constantly be conscious of the other's yearnings and expectations. They should respect it and realize that in the final analysis the focal point of distance teaching should not be instruction as such, but rather the enhancement of adulthood;

- myths regarding distance teaching should be disposed of (myths such as: * students in the distance teaching situation are independent adults in need of no more than scientific knowledge; * students are the only persons who gain from the teaching situation; * students do not need to support lecturers with regard to the latter's becoming what they ought to be.);

- the andragogic involvement of students with lecturers (and vice versa) on the tertiary level should no longer be considered in terms of pedagogic categories, but in terms of andragogic categories.

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EVALUATING ACADEMIC COMPETENCE ON THE TERTIARY LEVEL WITHIN HALF AN HOUR

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1. The theme of this conference : Distance education in Southern Africa : preparing for the 21st century is of essential importance both for today and for the future, because we live in an ever changing world. It is quite evident that great changes are in the offing. The question at stake is whether changes for the sake of changes are inevitable.

On the other hand the end of a century has always been an event that in itself has created the expectation of new things to come. Now we are approaching it under special circumstances, because this one will also mark the end of an entire millennium.

Also new is the impending advent of still more woundrous technologies looming on many a horizon, such as microelectronics, with effects on automation, robotization and informatics, genetic engineering, new materials, and space and deep-sea exploitation. It is held that the noval waves of progress that these high technologies will bring on their powerful wings will altogether change human life - though nobody knows exactly how. What is known, however, is that large sectors of humankind have still to learn to live with the existing technologies, and that many other people are afraid that new complexities may be added to those which already make their existence so complicated even nowadays.

So, while the year 2000 is not to be considered as such a mythical watershed or milestone in the human venture, but rather as the symbol of the beginning of a new age, the business of approaching it is almost a serious one; and we must prepare thoroughly for the new age, which, though full of promise, is also rife with challenge and danger. In reality, people at large feel, perhaps somewhat confusedly, that our journey, which has been zigzagging ahead with many ups and downs for more than one million years, has now reached a momentous turning point. For quite a while, a minority has maintained that the world is actually facing extreme alternatives, which can be, for better or for worse, and that humankind is at present set on the wrong course, giving the chilling feeling that it is rushing towards

almost inevitable disaster. This body of opinion is now becoming stronger. There is indeed a growing number of people, particularly among the young, who are becoming aware of the fact that something fundamental must be changed in human society if it is to exricate itself from the present deepening crisis. It is a good sign that all these people are starting to realize that to go ahead reasonably safely henceforth not only our business-more-or-less-as-usual attitudes are of no avail, but also our thinking and behaviour and a great many of our policies and institutions, and other things too, are hopelessly inadequate. However, accustomed we may be to them, we must revise them basically, because they are irremediably rooted in the past which is no more, while the conditions and exigencies of the future are totally different.

What is necessary at this juncture, then, is a sober assessment of where we are, where we are going, where we could go instead. As the one thing we cannot do is to stop, for willingly we are propelled ahead faster and faster by the proud civilization we have created and which we consider our masterpiece. The essential question is where we can make this onward rush lead us. This means that we will have to explore what the options are for the foreseeable future for the people who will have to share our interests and knowledge.

This is a broad framework within which the theme of this conference in general and my theme in particular should be considerd: Evaluating academic competence on the tertiary level within half an hour.

This theme poses a few questions which relates to:

- evaluation
- academic competence
- tertiary level

In order to analyse the theme and place it within the framework of this conference, it is necessary to elucidate the key concepts, beginning with academic competence.

2. ACADEMIC COMPETENCE

The word competence (L. competo, -petere, -petivi and -petii, - petitum)

refers to:

- to come together, to meet
- to be equal to, to match;
  to be competent, capable,

i.e. to come up to approximately the same standard of merit.

The Latin word competentia refers to an agreement. Competence refers to:

- adequacy, sufficiency
  of intellect, or skill, to perform a particular task or duty.

The concept competition must also be borne in mind.

What is academic competence?

In order to try to formulate an answer to this question, it is imperative to remember that:

- Education on the tertiary level is exclusive. It is only a small number of the community who enter universities and colleges. A number wishes to do so, but is excluded because they had not the minimum qualifications. A far greater number are effectively excluded because their previous education deny them the change or even the ambition to consider higher education.

- Higher education is recognizable similar, not only throughout South Africa, but throughout the world. Higher education is differently organized in different countries. There may be important differences in the degree of state control. However, in their central activities of teaching and research, institutions of higher education conform.

- People differs. The differences of aptitute, attitude and opportunity thought to separate those who are believed to be capable of higher education from those who are not are rooted in the economic structure of societies.

- The structure of the labour market for which students are prepared is what sets the real value of educational qualifications

and, therefore, though never in a wholly rational way, the demand for them.

- In any multicultural society some students have to face a language bias which occurs when the official language of study does not coincide with the student's first language.

The problem of illiteracies pushes to the fore the question of the so-called basics in tertiary education: critical thinking, problem solving, analysis, synthesis, and the like.

The psychologists used the term "intelligence" and the definitions of intelligence may be classified into two general types. The first includes definitions related to the ability to carry on abstract thinking, the ability to manipulate symbols, or the ability to learn materials of a verbal nature. The other category includes the definitions that consider intelligence as the ability to adapt to one's environment.

The question arises whether it is possible to "test", evaluate or assess intelligence. Is it not so that the result of learning, or achievement can be measured.

The problem deepens when we consider the possibility to evaluate a student's answer to an assignment.

ASSIGNMENTS

Once students have enrolled on a distance-teaching course, procedures need to be devised to obtain appropriate information on a regular basis from them. At the very minimum, these procedures should act as a substitute for the feedback that a student in a face-to-face class gets from his or her tutor. Hence, any distance-learning system should have a basic provision for receiving and commenting on written work (tutor-marked assignments) on a regular basis.

The aims of an assignment are multidimentional.

- It enables the tutor to evaluate/assess student performance,
- and it can be used as an additional educative method.

When should we assess?

Every so often it is useful for the student to get valuable feedback by attempting to answer frequent questions which enable them to check their own progress - the so-called self-assessment.

It is important and useful for the student to submit some kind of answer(-s) to (an) assignment(-s) for formal marking and grading. Its results provide feedback to both student and tutor.

Lastly we have the end-of-course examination or test, which can be called final assessment.

How should we assess?

Most educational testing consists of the student producing some kind of written output, which is then evaluated in accordance with a set of rules which may vary from out-and-out impression marking to a highly analytic marking schedule.

EVALUATING

The concept evaluate refers to value : worth, desirability, utility, quality, appraise.

To be able to evaluate, one must use applicable criteria. These criteria have to do with the participants : student and tutor, i.e. anthropological criteria and with the contents of the science, i.e. didactical criteria.

In order to formulate anthropological criteria, the evaluator must bear in mind that although distance education poses its own particular problems, the participants are people in the roles of student and tutor. Criteria applicable to the residential university student are just as valid to the distance teaching university student.

Some of the problems students have to face may be categorise as follows:

- those relating to study techniques and learning difficulties, which may well increase in complexity with the range of media being used;

- those arising from an individual trying to interact with a distant and sometimes impersonal institution; and

- personal problems which affect the student's work.

PROBLEMS RELATING TO STUDY TECHNIQUES AND LEARNING DIFFICULTIES

All distance students at some time experience problems in managing their own learning effectively, for example in scheduling and using time efficiently, in expressing their thoughts in written work, and in developing adequate reading and comprehension skills to enable them to make use of what they read and to cope with the volume of reading required. Students also experience difficulty, at some point in their studies, understanding particular concepts or texts.

PROBLEMS ARISING FROM AN INDIVIDUAL TRYING TO INTERACT WITH A DISTANT AND SOMETIMES IMPERSONAL INSTITUTION

In the conventional institutions students have access to their lecturers or tutors, or to their fellow students for help, advice or information.

In a distance-learning system the student is more likely to experience isolation, even alienation, from the institution. He (or she) may be geographically remote from the central institution and either living at some distance from fellow students or unaware of their existence, even if they do live nearby. The distant student may be uncertain of how the system in which he has enrolled functions, or whom he should approach with requests for further information and advice to enable him to make decisions. In some cases the opposite problem may occur: he may be inundated with such a plethora of printed documents that he is unable to make sense of them in terms of his own particular needs or problems. The system may appear to him too complex or remote to allow him easy access to its services.

PERSONAL PROBLEMS

In addition, the student may have difficulties arising from his personal circumstances. He may have no suitable place to study at home, no access to libraries. He may have domestic problems of one kind or another, including those arising from the conflicting demands on his time of full-time employment, family commitments and study requirements. He may get ill and

fall behind with his work.

In order to meet some of the abovementioned problems, the assignment-system can be implemented fruitfully.

The assignment system is a via medius to

diagnoses
remedy and prognoses.

DIAGNOSES

It must be possible to discover the existence of a gap in the "scientific equipment" of the student. It might also be possible to detect a scar in the composition of the acacemic or agogic excellence of the tutor and it is sometimes difficult to be honest enough to know the difference.

REMEDY

Although detailed correspondence exchanges on the student's written work are seen as desirable in a number of distance learning systems, not all have developed this mode of teaching to any great extent. The reasons are various:

- the number of students a tutor has may be too great to allow him to spend sufficient time commenting on their work; or
- the assignment may consist only of objective tests which the tutor scores with a master-card to arrive at a grade; or
- the notion of teaching through correspondence may not have received sufficient attention and development within the institution.

However, teaching through correspondence dialogue can offer more potential as a teaching medium than is fully realised.

To be effective, the tutor needs to convey, through comments, advice for further study and to perceive the student's existing of knowledge and conceptual framework. The manner in which this is done is extremely impor-

tant : the approach needs to be constructive and supportive, and the words carefully chosen, since there is no chance to temper a criticism with a smile or elaborate a hasty comment as in a face-to-face meeting.

The comments themselves should be specific, self-explanatory and clear, and may be categorised as follows:

- those which acknowledge the student's point of view;
- those correcting errors of fact or syntax;
- those which help the student to clarify his argument;
- those which direct the student to the proper use of evidence;
- those criticising the assignment answer as a whole;
- those which suggest a different viewpoint to the student's; and
- those which explain the grade being given.

If the results of an assignment are made known to all students who have submitted answer papers on a given date, it is obviously not proper to accept later submissions from other students, since the bush telegraph might well enable such late entrants to have gained access to the correct answer.

PROGNOSES

It is necessary to keep a close record of the advancements of every student, because all the tutorial and didactical procedures lead to a final examination. The answer to an assignment will enable the tutor to predict the probable degree of success with which the student can be admitted to the examination. It is possible that an error of judgement of the tutor can exclude a potential Einstein from academic progress because he could not fulfill the high standards of the tutor.

QUO VADIS?

The idea of the so-called open university or distance teaching university is no new idea. It was instituted and evolved from the convergence of three major postwar educational trends:

- the developments in the provision for adult education,

- the growth of educational broadcasting (in England), and
- the political objective of promoting the spread of egaliterianism in education.

The question arises (and I do not intend to try and formulate an answer) whether the distance teaching university will develop into the only model for higher education in the future. Aspects which may be considered are:

- economic factors,
- infra-structure,
- manpower loss through full-time study,
- growth in populations and growing needs,
- shortage of competent university lecturers/tutors,
- availability of posting facilities,
- extended library facilities,
- increasingly refined tutorial matter and methods of teaching over the air.

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DIDACTIC OBJECTIVES IN DISTANCE TEACHING

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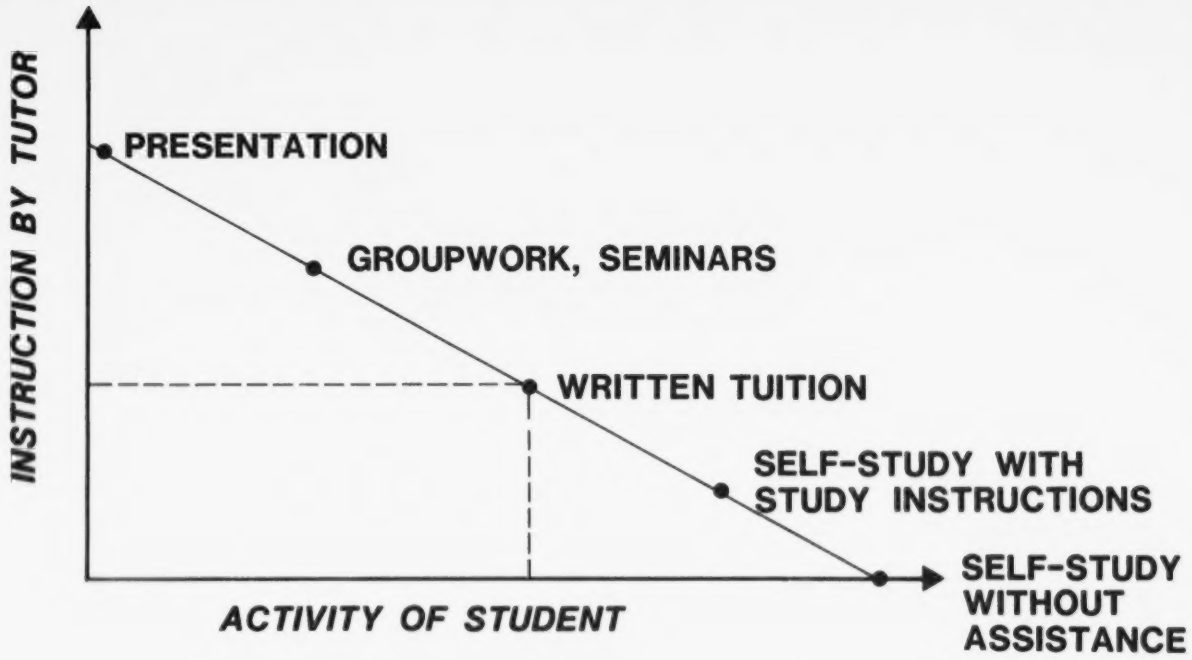
1.0 INTRODUCTION

A gentle revolution has set afoot in the domain of distance teaching. This is chiefly occasioned by the fact that touchy die-hards — including yours truly — who cling to the maxim of 'I know how to teach', are slowly losing their fear of objectives, their apprehension that the setting of objectives reeks of risk and awesome innovation. They are no longer so sensitive about their teaching ability, and are willing to try out new ideas and conceptions. A little soul-searching makes them a little less easily offended about the delicate matter of self-appraisal of their teaching competence or faculty of achieving didactic objectives. They have at long last come to realize that the beaten path is not always the safe path. The categorical Roman maxim of "via trita, via tuta" has become somewhat outdated. They accept the challenging and gracious invitation to take a fresh look at didactic innovation which is more than a theoretical nicety. Some even accept the challenge to an altogether new approach, that of teaching based upon a new spirit and outlook. They are redeemed from their prejudiced, foregone conclusion about their self-made excellence.

Fortunately for them it can be stated with confidence that the new-fangled call for 'the formulation of special (didactic) principles' (Childs in: Mackenzie, 1971 : 10) has a false ring about it, since all teaching-learning situations contain the same essential elements, viz. that 'learning can only be done by the student himself, and that the teacher's task is to assist the (student) in the process. In every teaching-learning situation there must be clearly recognized objectives, learning experiences must be provided which will help the student to reach these objectives, and suitable instructional materials must be available to him. Some direction must be given the student as he engages in learning experiences so that learning may proceed most efficiently. In addition, the teacher must seek to stimulate and maintain interest, supplement information obtained from other sources, and explain or clarify when explanation or clarification is called for. There must be an opportunity for self-evaluation by the student, and



CONTINUUM OF DIDACTIC SYSTEMS ACCORDING TO GRAFF

(VAN ECK, 1979:20)

for evaluation on the part of the instructor' (Childs, in: Mackenzie, 1971 : 110; own italics. In this paper the term tutor will be used throughout instead of instructor and teacher.)

Didactic objectives thus evidently remain dependent on the communication skills of the tutor, and the receptiveness of the student (cf. Smit, 1986b : 19), and reiterates that 'the twin concepts of "teaching to" and "learning of" are indivisible', and that the root verb "didasko" (to teach or instruct) must remain the essential instrument in any teaching-learning situation, no less so in distance teaching (cf. Smit, 1986a : 25, 28). The tutor who makes teaching as such his main didactic objective, cannot easily miss the mark as he would not allow the student to paddle his own canoe.

2.0 ANALYSIS OF TITLE

2.1 Part of didactic system (TRANSPARENCY)

Didactic objectives form a preamble to didactic work forms, and are, therefore, part of the entire didactic system. It is the tutor who sets the didactic objectives, whereas the student must set himself study objectives, as sure as eggs is eggs. By aligning the tutor's instruction with the relative amount of self-study by the student, Graff has designed (TRANSPARENCY) a progression of different didactic work forms or systems which can be distinguished by looking at the relation between instruction and own activity on the part of the student. Written instruction provides the most direct continuous guidance since it forms the basis of guided and controlled self-study (cf. Graff in: Van Eck, 1979 : 20). This can come true only if the tutor makes clear his teaching objectives to the student, if he structures the content in such a way that self-study is possible, if his course allows for practice, in the course of which he attends to the difficult and the unfamiliar — always bearing in mind the basic didactic requirement of proceeding from the known to the unknown — through a system of two-way communication (cf. Lewis, 1985 : 10-12). It goes without saying that all these didactic objectives operate on the general laws of human learning, and that the tutor's sequence and manner of presentation must provide his student with means of how to learn, and how to proceed along a course of study.

2.2 Distance teaching

2.2.1 Outlining the term

Distance teaching is meant to compensate for part of a good teacher's activity which cannot be shared by the student for reasons of physical separation (cf. Holmberg, 1960 : 8). In its right form it is education of full value, and has a pedagogical-andragogical aspect relating to the relationship between the tutoring adult and the studying adult which, in turn, implies personality and the moulding of character. The tutor, therefore, does not only transfer knowledge — not by a long chalk — but also moulds his student by his knowledge; 'consequently, the subject-matter of (tutoring) is in itself the cause of a change — frequently an improvement — in the (student's) character. Anyone who is teaching, has placed himself in an anthropological framework with the claim that he has something to offer to his fellow-men, both for their hearts and their heads' (cf. Van Hulst in: Sloos, s.a. : 73-74).

Altfeld's definition of distance teaching more pertinently stresses its characteristics, viz. the interaction between knowledge, competence and skill, the spatial separation between tutor and student, the use of teaching aids to bridge the spatial distance or gap between them, the flexibility and resoluteness required by both parties, and the control as if from a foreign place (cf. Haagmann, 1970 : 13).

2.2.2 Evaluation

Childs found that distance teaching 'meets the basic requirements of any sound teaching-learning situation and ... has (certain) instructional advantages (whereas) the advantages of classroom instruction are ... situational advantages' (in: Van Niekerk, 1968 : 234). Since it then is an effective form of instruction, one may conclude that its didactic objectives must be sound. Keeping sound objectives in mind, distance teaching itself must perforce be characterized by didactic methods based on universal laws of learning, keeping an eye on the student's learning capability and cognitive development, his attitudes and approaches (cf. I.E.C. 1979 : 71-75). The above-mentioned methods, in turn, hinge on the use of distance-learning materials (including illustrations conveying a message without words), on the ability of the tutor to write for learning, and his ingenuity to get his distant student started on a new venture of learning (cf. Lewis, 1985 :

13, 68-76, 49-65, 93-102).

2.3 Didactic objectives

2.3.1 Defining "objective"

Gagné and Briggs maintain that 'objectives serve as guidelines for developing the instruction, and for designing measures of student performance to determine whether the course objectives have been reached (1974 : 96). This implies that the course is based on a syllabus which ipso facto contains the objectives for the course. The specific reference to the development of instruction implies, however, another aspect, and that is the tutor's direct objectives with his teaching. Admittedly he has a particular end result in mind, but how does he arrive at it lest he should find himself on the horns of a dilemma? By giving general support, and keeping up communication consistently which implies continuously giving study advice, appropriate working with materials, giving feedback, keeping records which supply the information for renewed activation of his students. In order to do this it should be a short-range and immediate objective of the tutor to do his utmost to ascertain and recognize his student's strengths, and devise ways and means of using them, keeping in mind the amount of freedom (regarding pace and place) offered by the distance teaching system. He must really know his onions to be able to do this! Once he is satisfied that he is indeed using the existing learning materials and the support system to the full, he must add to his objectives investigating the possibilities of unfamiliar media such as microcomputers, more self-help groups, and a greater amount of person-to-person relation across a distance, with a warmth of communication as a first requirement (cf. Lewis, 1984b : 40-55). In other words, the purpose or intention lies at the root of the tutor's objectives, and will it suffice to quote in conclusion Lewis's definition of objective: 'A description of the purpose of a course expressed in terms of the capacities that the learner will acquire and demonstrate; a statement of learning outcome' whereas aim, being somewhat further removed or remote, is 'a general statement of the intention of the planner or writer' (Lewis, 1984a : 92; own italics).

2.3.2 General objectives

The tutor's general didactic objectives can be either short-term (concerning the immediate business of advising the student how to get started, and how

to "open up" his learning materials) or long range (relating to ultimate goals commensurate with students' expectations) (cf. Snyder, 1972 : 46).

2.3.3 Specific objectives

In this regard the tutor has in mind his students' basic needs, and it must be his prime objective to supply in these needs.

2.3.4 Study objectives

Objectives should be communicable and be as lucid as possible. In some cases it is possible to specify concrete behavioural objectives, i.e. to express them in such a way that they list what the students should be able to do after the study. When defining study objectives the tutor should use verbal expressions such as "recognize the symptom of", "conduct experiment", "demonstrate", "do", "enumerate", "calculate", "quote arguments for and against", "prove", "write an account of", and "report orally on" (cf. Holmberg, 1982 : 17). To this list must be added one of the most useful and demanding of verbs, viz. "evaluate".

The tutor must be open-minded about his original or initial study objectives. Holmberg reminds us that 'it is often desirable and necessary to modify the original objectives in the light of information, considerations and experiences made available through the actual development work (1982 : 19).

Students themselves devise their personal study material against the recommendations made by student counsellors and tutors. Potvin, for example, has developed a constructive approach to engage students in the selection of study objectives (in: Granholm, 1976 : 27-30).

2.3.5 Writing objectives

In writing objectives the tutor or course-designer must find a way of getting from general aims to more specific statements of what his students will achieve. If need be, he must rephrase his objectives to make sure that he is succeeding in communicating with his students. Objectives should be clear and accepted descriptions of what students are expected to learn. These add meaning to the notion of educational standards. Before we try to raise standards, we would do well to define them (cf. Lewis, 1984a : 7-8).

It is imperative, therefore, that the designer or writer of an objective

must have a prophetic view of the outcome, since an objective is a statement of an intended outcome; it is a description of what the student should be able to do after having completed a course. So an objective must be planned before it can be written, and the planner must keep in mind that the objective should be "desirable, observable and important". Properly planned objectives make the learning process more manageable for the learner, and, moreover, he will have some basis for measuring his progress (cf. Lewis, 1984a : 8).

Planning includes categorizing the objectives into sub-objectives which make sense to the student. Objectives should also state the performance required, looking at behaviour, standards and conditions. Because the objectives must serve a variety of students, the writer must decide what content to include, how to present the content, and what assessment questions to ask. It is, therefore, obvious that course planners, writers and tutors should reciprocally communicate (cf. Lewis, 1984a : 9-14), and that the tutor must give students the opportunity to comment on the usefulness of the written objectives. (For practice units, see Gillham et al, 1981.)

3.0 THE RELATION BETWEEN DIDACTIC OBJECTIVES IN DISTANCE TEACHING AND THE PRIMARY AIM OF UNIVERSITY TEACHING

3.1 Introduction

There is no light-and-dark contrast between distance teaching and oral university teaching as far as the primary aim or objective is concerned, but most decidedly as far as the means and methods of achieving such objectives are concerned.

3.2 Primary aim

The primary aim of adult education — whether it be distance or face-to-face education — is to provide instruction to students who have left school, in such a way that they benefit from their studies, that they acquire skills and integrity in preparation for a profession while evaluating their efforts themselves, since they freely elected to study further, and are presently confronted with establishing a relation between their freedom generally and the knowledge they are pursuing.

In order to achieve this they have, first of all, to bridge the gap between the adolescent and the adult worlds, including the factors of attitude,

perspective and knowledge.

3.3 Critical ability

The distant tutor's objectives must provide for the additional facility of guiding the student to develop critical ability independently at a distance. (The residential student has the opportunity to enter into dialogue with his lecturer, take a piece of study material to pieces as it were, and develop his critical faculty face-to-face.)

3.3.1 Instilling critical ability

It is of no avail to acquire more and more knowledge without having acquired critical ability to judge the truth and value of such knowledge, and to retain interest in study, and to develop a desire to continue learning, and looking at new knowledge with a critical eye.

3.3.2 Moulding critical ability

The tutor who is mindful of the necessity of unceasingly keeping his didactic objectives in mind, will set himself the task of preparing creative questions whereby his student's comprehension skills will be developed (cf. Snyder, 1972 : 38). Questioning is imperative if the objective of evaluation is to be attained. Without this function the tutor could never project a positive image of learning, whereas the student will lose confidence in the tutor's insistence on striving to reach the objectives he had set at the outset (cf. Snyder, 1972 : 47).

3.4 Conclusion

Keegan's appraisal of selected systems of distance education proves that didactic objectives are realized in such institutions with great success (1986 : 242-266).

4.0 BALANCE BETWEEN FORMATIVE EDUCATION AND FORMAL TRAINING

4.1 Introduction

Once the student has achieved a measure of critical ability, which implies open-mindedness, the tutor must be on the alert that the student does not veer in the direction of purely professionally orientated training. His generally basic, formative education must not be neglected. This implies that the tutor must maintain his warmth of communication, and keep in mind

the student's basic needs over and above his study objectives, i.e. education of full value.

4.2 Open-minded spirit

The tutor must not regard his didactic objectives as a rigid set of laws of learning. He must be open to conviction with regard to new demands and circumstances in the field of his course and the lives of his students.

4.3 Wrong training

In training tutors a one-sided approach must be avoided. Different distance teaching systems must be compared to arrive at an approach best suited to the country operating a particular system, while keeping in mind certain basic or universally accepted didactic objectives.

4.4 Acceptable standards

The realizing of accepted objectives naturally paves the way for acceptable standards. No institution should ever be compelled by its superior authorities to lower its standards below the level of high, internationally accepted standards, for any reason such as financial or political expediency.

4.5 Academic excellence

By combining superior didactic objectives with responsible practice applying every available workable aid and means, academic excellence on the part of the tutor as well as the student, can be actualized.

4.6 Responsible judgment

Maintaining the correct balance between achieving the objectives of formative education and formal training, ensures the acquisition of responsible judgement of the course as a whole, and a balanced evaluation of teaching by the tutor and of learning by the student.

5.0 DIDACTIC-ANDRAGOGIC PRINCIPLES

The task of meaningful learning must be stated in terms of a context which is important and compelling to the learner, and which engages his active participant purpose. The adult makes his own choice of subject or material, therefore all he requires from his tutor is to be led by way of the context toward control through understanding and insight. This, in turn, will fa-

cilitate transfer of insight as well as knowledge and skills to other fields of learning (cf. Mursell, 1954 : 85). With the principles of socialization and individualization already established by the student himself, the tutor could concentrate on focus and sequence within the context of the study material, and follow it up with evaluation, thereby achieving his immediate didactic objectives. Mursell sums up the whole problem of objectives, procedure and end result in this reminder, 'Teaching stands or falls not by the choice or "proper" use of this or that method, but by the extent to which it manages to organize meaningful learning. A teacher can best improve his work ... by understanding and correcting the weaknesses in his plan for organizing learning' (1954 : 89-90).

6.0 CONCLUSION

The tutor's purpose for setting himself didactic objectives hinges on the primary aim of assisting the student to actualize a critical ability, not just to learn a number of facts in order to obtain a certificate, whereby completing his professional training. His objectives must play a role in the student's formative education as well, while attempting to maintain high internationally accepted academic standards.

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THE PROBLEMATICS OF DISTANCE EDUCATION FROM A TUTOR'S POINT OF VIEW

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1.0 INTRODUCTION

1.1 Why problematic?

The tutor's dilemma - or problem, to put it mildly — is to divest himself from the temptation to consider education an abstract matter - especially at a distance - but rather to view it to be the field of practical doing which it, in fact, is (cf. Scheffler in: Stellwag, 1966 : 99); furthermore, to differentiate between learning theories for adults and children. To start with, the adult has greater experience to draw on. 'The learning theory that is perhaps the most explicitly developmental, that of Jean Piaget, gives far greater stress to qualitative changes of cognitive structure in childhood rather than adulthood' (Long in: Mackie, 1981 : 3).

At the same time, one must admit that certain principles would seem to be equally relevant to both adults and children — cf. motivation, individual differences in learning capacities and learning style, reinforcement, and opportunities for practice, to name but a few. This admission presumes that certain andragogical — as distinct from pedagogical — facts are borne in mind. Knowles contends that adults have a strong need to be self-directing; 'they increasingly define themselves by (their greater) experience rather than by external sources'; are more ready to learn, based on a question of "need" related to current projects and roles ... looking to immediate application (in: Mackie, 1981 : 3-4). The problem that raises its ugly head for the tutor in this instance is how to assess intuitively this need of the student, and how to orientate himself toward the specific problematics of communicating with the distant student. If he fails, he has only himself to blame. He is like the man who falls to sleep in front of the TV, with his collar and tie still in tact. The next morning he has a stiff neck and a dreadful headache — which he blames on his Lazyboy!

However formidable the tutor's andragogical teaching problem might seem, he may console himself with the findings of more than one researcher whose subjects declare that distance teaching methods are superior, but that they

need a large measure of self-control (cf. Van Niekerk, 1968 : 183).

1.2 When is a lecturer a tutor?

The greatest problem for the distance tutor is how to become an 'inspiring teacher behind the message' (cf. Van Vuuren, 1976 : 11). Rayner finds the answer to the above question in teaching the student to stand on his own feet intellectually (in: Holmberg, 1960 : 13), to which may be added that distance education is aiming to meet people where they are, so that the problem of the tutor is how to reach out into the community (cf. Kabwasa, 1973 : 94), that is, reach out across the space by means of the written word primarily, and supplementing this by means of occasional eye-to-eye contact and audio-contact through cassettes and the telephone. This reaching out relates to the typically human characteristic of transferring meaning into language (cf. Kwant, 1967 : 40), and the lecturer becomes a tutor only when he communicates spiritually and mentally with his student in such a way that the student accepts him as his guide, and follows what he wants to say to him. Looking at the tutor from this angle means no longer to use the term "tutor" as a general term for the person in an open-learning system who is directly responsible for the learner. The tutor now becomes a professional, that is, an educator as well as a trainer, a counsellor, mentor, coach, guide, supervisor and godfather. His main task is to help the learner or distant student to acquire skills and strategies needed to become autonomous, usually through mastery of a particular subject area or skill (cf. Lewis, 1985 : 118). To fulfil this task, the tutor must be in control of the distance-teaching situation, otherwise he will end up being the dog that is wagged by its own tail.

2.0 CONTACT

2.1 Imaginative contact

Most of the time the tutor can only imagine what his student thinks and does. He might be following a line of studying at leisure or for purely personal development. For this reason one must qualify the term 'needs', and enquire whether Knowles is altogether realistic — academically speaking — in suggesting that adults are motivated to learn in terms of their own needs (cf. Taylor, 1981 : 12). The tutor's problem is that he is unaware of the amount of lack of belief of the student in himself. His only hope is to be as optimistic as Bloom whose philosophy of mastery learning prompts him to believe that most students can learn what schools have to teach if the

problem is approached sensibly and systematically. Many students who enroll for distance education failed in formal schooling either through environmental causes or defects in schooling, not because of an inherent inability to learn on their part. It is for this reason that Taylor argues that if the tutor gives his adult learner sufficient time and aim to generate a little more confidence, he can achieve his objective. However much the tutor has to rely on imagination and intuition, he must take advantage of the distance-teaching situation over the traditional classroom where learners are thrust — according to Rauch — into competition which may reinforce the lack of confidence in themselves (cf. Taylor, 1981 : 13). Distance teaching frees the student from any emotional and intellectual dependence on his tutor. He is not intimidated by tutor presence, nor subject to pressure about acceptable responses. His imaginative contact with his tutor encourages him to develop a critical independence (cf. ACACE, 1983 : 4).

2.2 Personal contact

The student who prefers the verbal and non-verbal cues transmitted by tutors — cues which are essential to accurate assimilation and understanding of new knowledge and skills — and who miss the stimulus and the periodic reinforcement of enthusiasm derived from direct or personal contact with tutors and other students (cf. ACACE, 1983 : 4), experiences problems in his attempts to make personal contact with his tutors. It could even happen that when the student has the opportunity for such contact, the tutor might not be available. Imagine the plight of the student who studies in a different country, even overseas. (Many Unisa students have the opportunity to make such personal contact on the occasion of discussion classes or personal visits to the campus. As soon as regional campuses are established, the scope for personal contact will increase.)

2.3 Different learning styles

Tutor-student contact is greatly effected by the differing styles of learning among students. The problem from the tutor's point of view is that he has very little opportunity to discover these differences, and there is so little he can do about it because he uses a uniform study guide, into which admittedly, he can build in an amount of flexibility. Lewis maintains the modern concept of a package of learning materials is that it is a resource for students to use in whatever way they feel appropriate, since they learn in different ways, and find different features of a package useful. (The

interested reader will find Lewis's five learner's routes enlightening (1985 : 22-29). "How they use the material will depend on who they are, the nature of the subject, their previous experience or knowledge and their reasons for studying. It is the author's responsibility to make the package as accessible as possible to learners who use different styles.")

2.4 Media aids

The tutor's problem is how to use educational technology essentially as a way of looking at the total process of teaching and learning in a systematic way (Hills in: Smit, 1981 : 51), that is, making sure that all elements of such aids are aligned with his didactic design. Moreover, the tutor must regard an educational medium only as a channel of communication which he can use in his educational programme. The I.E.C. (1979 : 81) divides the media into three main groups : printed, broadcast, and face-to-face communication, and a fourth which comprises diverse forms such as cassettes, films, slides etc. The tutor's problem is how, where and when to use which medium in which part of his course with the greatest effect, not forgetting the follow-up work after having used these media.

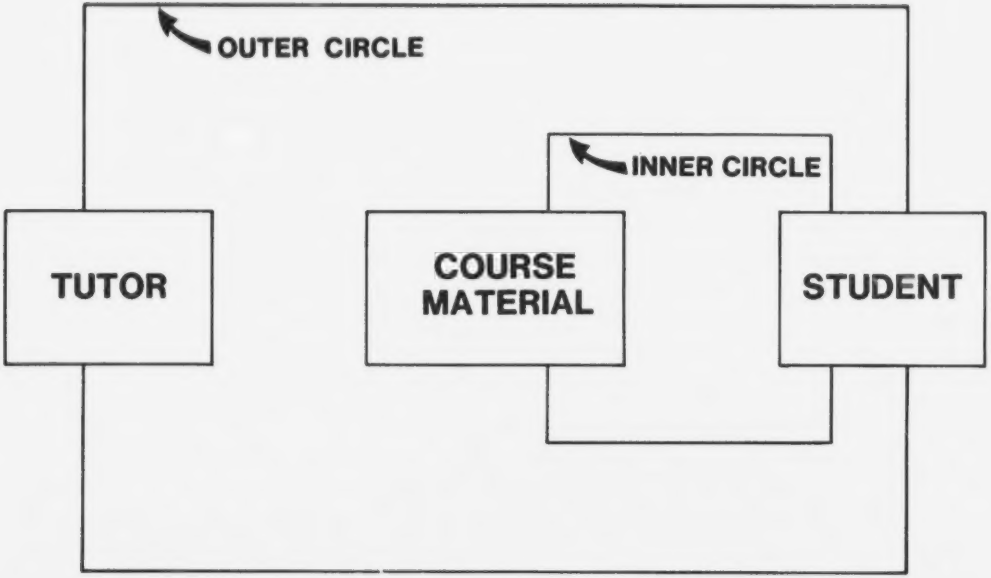
2.5 Remedial loops

Remedial work is an exceptionally important part of contact less the student will feel abandoned when experiencing problems. A remedial loop or section is an extra part of a chunk, provided for learners who experience difficulties. (A chunk is that part of a package that forms a coherent learning experience.) (Lewis, 1985 : 117-118).

3.0 INFLUENCE

3.1 Dearth of face-to-face influence

Although face-to-face communication has an advantage as far as motivation and orientation are concerned, there are no associations (according to Blackwood's research findings, 1968 : 7) between the amount of learning which took place when the educational information was presented to the adult audience through face-to-face or remote teaching techniques and the personal and situational factors of age, level of education, time of day and attitude. Distance education can, therefore, (Keegan, 1986 : 271) be considered a legitimate field of academic enquiry, also styled (Graff in: Van Eck, 1979 : 20) the written educational form of guided selfstudy.



SCHEMATIC PRESENTATION OF WRITTEN TUITION, USING AN "INNER CIRCLE" AND AN "OUTER CIRCLE" ACCORDING TO GRAFF (VAN ECK, 1979:21)

3.2 Possibility of effective influence despite distance and absence

The physical separation and absence of the tutor cause a time lapse when immediate response is required, when the need arises for quick correction and the clearing-up of misunderstandings as well as preventing a break in dialogue caused by a loss of immediacy of reaction (cf. Yule in: Van Biljon, 1983 : 126). Be this as it may, the tutor in distance education is constantly in contact with his student through devious means, from which interaction (according to Holmberg in: Page, 1979 : 74) he benefits, as well as from the supporting organization.

3.3 Student's readiness to be influenced

3.3.1 Student and system

In recent years it has become evident that distance education is a needed component of many national educational systems (Keegan, 1986 : 270). The University of South Africa is a strong case in point.

3.3.2 Acceptance of absent tutor

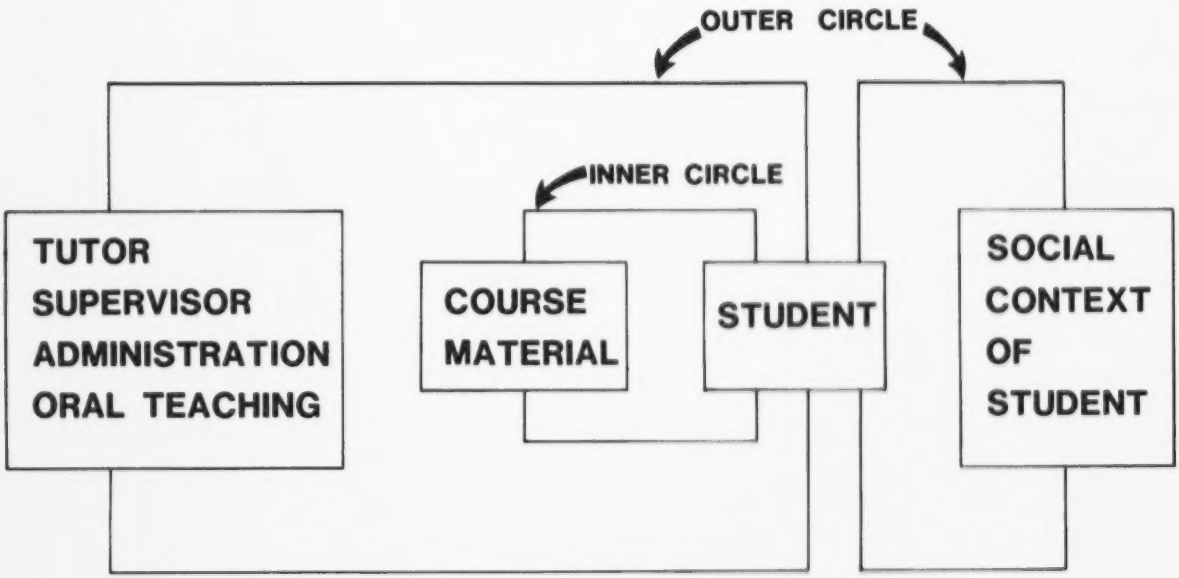
The student's acceptance of the distant or absent tutor as a worthy guide, is a sine qua non in distance education. It is an indispensable prerequisite.

3.3.3 Readiness to approach course correctly

Likewise, no effective distance-learning can take place before the student has shown readiness to approach his course with the correct attitude and manner.

3.3.4 Interaction between student and study material

(TRANSPARENCY) Graff explains that written teaching takes place in a distance education scheme in two "circles" or spheres : an inner and an outer, respectively, the interaction between the student and the course material, that is, between the text and the eventual "self-check". This interaction constitutes the core of written tuition. In the outer circle the student and the tutor meet : assignments are submitted, these are corrected, and other forms of mutual (two-way) communication take place between the student and the tutor (in: Van Eck, 1979 : 21-22). In both circles there are specific prerequisites, namely, the knowledge, skills, etc. the learner needs before tackling a particular chunk (Lewis, 1985 : 118).



OUTCOME OF GRAFF'S MODEL OF WRITTEN TUITION

(VAN ECK, 1979:22)

3.3.5 Signposting

Signposting is a prerequisite to make the student ready to be influenced. He requires indications where he has to go, where he has come from (what background he requires at a particular starting-point), and where he is going to (cf. Lewis, 1985 : 118). Thus he orients himself towards readiness to be influenced.

3.4 Tutor's readiness to influence student

The tutor is ready on andragogic grounds to influence the student but also to move into the background, i.e. break away to give the student an opportunity to study independently (cf. Strydom in: Van Biljon, 1983 : 27). The tutor's readiness comprises a correcting function when giving effective feedback, and by stimulating, supporting and enhancing the motivation of the student (Baath in: Van Eck, 1979 : 23).

3.5 From reciprocal influence to effective two-way communication (TRANSPARENCY)

The outcome of such interaction is multi-communication based on an andragogical approach using the experience of both tutor and student (cf. Eksteen, 1977 : 14). The outcome of Graff's model of written tuition is illustrated in this diagram (Van Eck, 1979 : 22). A proper relation between student and tutor requires more than communication between them. Administration, other tutors, supplementary media such as occasional oral contact and personal meetings are important aids (Van Eck, 1979 : 21). As far as the tutor himself is concerned, he must do more than transmit content. He also supports learning by arousing interest, making objectives clear, structuring the material, giving practice and feedback, attending to the difficult, and establishing two-way communication (Lewis, 1985 : 13). So obviously he must be a skilled communicator, using letters, marked scripts, audiotapes and the telephone, but the student must realize the tutor is not there solely to teach him — the course will do that — but to help him when he has difficulty (Lewis, 1984b : 40-41).

4.0 ABSENT, AND YET PERSONAL TUITION AT A DISTANCE

4.1 Student as an individual

From the tutor's point of view each distant student is an individual despite the fact that the course had initially been designed with the group in mind. The tutor "speaks" to the student individually.

4.2 Student's needs

The student needs to make direct connections with his own work experience. His study material must be programmed in such a way that he can transfer certain study skills — faster reading habits, critical faculties, logical analysis, and selective notetaking — as well as subject-specific skills from one learning field to another. By determining his own self-pacing, he must render his learning strategy flexible (cf. ACACE, 1983 : 45).

4.3 Tutor's primary concern

From the tutor's point of view the student requires to do a diagnostic test by setting him a series of questions which will enable him to decide which part of a package of learning materials he needs (Lewis, 1985 : 117). The problems of quantity, quality and status of provision can be solved by cohesive and competently administered systems (Keegan, 1986 : 271). The speaker is of the opinion that the dedicated tutor will find that UNISA is an institution which has achieved an acceptable solution in this respect.

4.4 Tutor's problem of self-evaluation

The tutor must himself assess whether he is primarily concerned with the students' needs, and with the part he is required to play in his institution's cohesive system.

4.5 Promotion of meaningful student learning strategies

Part of the student's "personal" tuition, is to guide him to make use of his experience. He must be able to determine the stage in his learning cycle where he needs total or comprehensive images, when he can distinguish the theoretical connections between facts, when he can test the original hypothesis, and when he can apply theory in practice (cf. Meyer, 1981 : 38-39).

5.0 TUTOR'S PARTICULAR DIDACTIC PROBLEMS

5.1 Terminology and didactic laws

Keegan states (1986 : 270) that distance education 'has its own didactic laws' but I hope his phrase is not meant as a categorical piece of terminology since no "type" of education can have didactic laws of its own outside the ambit of universally accepted didactic laws. What he meant perhaps is that the exceptional circumstances in distance-education situations require

specific application of such laws. The tutor must be prepared for these special circumstances, and avoid taking a foolish and dangerous course of action that is likely to have disastrous results for both student and tutor who is riding the tiger. If my listener would recall the story of the lady of Riga, you would know that the smile on the face of the tiger could be compared to the wry humour of the examiner who pities the tutor whose student had failed (cf. ANON.).

The tutor must especially remind himself that the terminology he uses in his study material is the tool for student learning. Van Wijk reminds us that the word is also the deed. What one writes, is a way of speaking and doing (in: Steyn, 1980 : 180). In this manner the tutor's study language perforce becomes his identification with his student's study problems as well as his own credo regarding his philosophy of labour.

5.2 Explication

The distance-education tutor has the unenviable task of explaining facts across the void, but at the same time he does not like to feel that he is speaking in a vacuum, that he is talking to a blank space. At times he gets the uneasy feeling that he is not filling the gap, that his efforts are ineffectual and in vain, worthless; that his ideas are inoperative. How else must he explain the poor response of his student in that assignment that miscarried?

This is the stage when the tutor must take stock of his study material from a tutor's point of view only, that is, its suitability for effective and efficient study by the students of his particular course. He should, for example, examine and evaluate anew the readibility of his reading material (cf. Lewis, 1985 : 49-74 and Hittleman, 1976 : 14-17), his objectives (cf. Gillham, 1981 : 22), his planning and arrangement (cf. Holmberg, 1967 : 20), the essence and range of his instructional techniques (cf. Snyder, 1972 : 23, 27), asking himself whether his pre-tests, post-tests and selfcheck exercises were sufficient (cf. Lewis, 1985 : 118), whether he should not repeatedly have asked his student questions, and have given him repetitive exercises and tests (cf. Holmberg, 1960 : 22-29), whether his access devices, such as the overview, were effective (cf. Lewis, 1985 : 117-118) enough to result in complete comprehensibility (cf. Mandl in: Van Biljon, 1983 : 48). As a last resource, he should resort to a new look at

Flexistudy and OWTLET ("Other Ways To Learn — Educational Technology") (cf. ACACE, 1983 : 14, 34, 56) to determine the possibilities of creating a greater scope for readibility and comprehensibility which will enhance his powers of explication.

5.3 Critical attitude

5.3.1 Tutor's critical attitude

The foregoing paragraph contains a formidable catalogue of possible remedies for the tutor's didactic problems. First and foremost is, however, that he will develop a critical attitude toward his own objectives which he prescribes for his students (cf. Lewis, 1984a : 27-64), as well as the other means which he employs to help his student to assess his progress (cf. Lewis, 1984a : 63-82). If he cannot manage on his own, he must opt for division of labour (cf. Peters in: Van Eck, 1979 : 22) which will avoid a one-sided approach and a misjudgement of the time and effort required for writing his study material (cf. Childs in: Mackenzie, 1971 : 114-115).

One step further in self-criticism and a sustained critical attitude, is to study the criteria for a distance-teaching model (cf. Harley, 1982 : 242-243), as well as the application of such a model and recommendations for its use (cf. Harley, 1982 : 241-248). A model was specially designed for distance teaching through UNISA (cf. Harley, 1982 : 199-203).

5.3.2 Student's critical attitude

It is acommonly human characteristic to express anything that makes sense to him, in words (cf. Kwant, 1967 : 201). The student requires critical ability, however, to be able to distinguish sense from non-sense. He will underscore the words and phrases which make sense to him. These underlined words must form a critical summary of the gist of the passage, and reveal his critical attitude towards his study material, especially of the key concepts. This, again, is only possible if the student has a critical attitude toward his self-discipline, his criteria for successful study, his self-assessment of his progress (also ability to progress), and his willingness to align his study skills with the skills outlined as requirements set by his tutor for his particular course.

5.4 Responsible resolution

After all is said and done, it is the student who enrolls for a course, so

that he is responsible for his decisions and actions regarding his studies. The tutor resolves in a responsible manner because of his andragogical and professional obligations.

5.5 Personal concern with the pass-rate and standard

From the tutor's point of view the problems regarding the student's pass-rate and standard of work delivered to the tutor who usually is also his examiner, are not much of his concern once he has bent himself backwards to ensure the best possible presentation of the study material and the communication with the student.

5.6 Tutor training

The training of tutors should "not be regarded as an optional extra to be fitted in as and when possible" (ACACE, 1983 : 62). The tutor who had previous training for teaching in school, requires additional training for distance teaching, especially in simulation, marking and course writing. What this really means, is that distance educators must be professionally trained, irrespective of their knowledge of conventional teaching (cf. Holmberg, 1982 : 45). Tutors must assess their own personality against the different requirements for distance teaching, be willing to compare their own tutoring styles and techniques with that of other tutors, assess their teaching skills and their practical problems in this regard. If still not satisfied, they could try out Williams' (1980) approach of a "reflexive" strategy which means to discuss with the adult student how he goes about learning effectively, using the didactic principles as a basis for discussion (cf. Mackie, 1981 : 11).

The primary basis for the training of distance-teaching tutors is to determine the best methods required by tutors to help their students. Upon this follows selected ways of communicating with them, and deciding on which skills will be needed for the total programme. What the trainer has to keep in the back of his head all the time, is how the tutor must activate, support and advise his student on how to work with his materials, how to get feedback from the student, and how to feedback after having assessed the student's work, how to keep records, and change his attitude toward distance teaching (cf. Lewis, 1984b : 39-40, 63).

As far as the training of tutors for the training of in-service unqualified

teachers in post-colonial Africa is concerned, it has become evident that distance education provides one important alternative of training such teachers who cannot be withdrawn from the schools, as there is nobody else to employ (cf. Kabwasa, 1973 : 54). "It is vitally important for (distance) educators to pay much attention to their own further training, and give some thought to the training of the next generation in their field" (Holmberg, 1967 : 69).

6.0 CONCLUSION

The tutor does not have to contend much with 'the superstitious belief in the value of lectures' (Holmberg, 1967 : 68) at residential institutions. His biggest problems are to find better ways of improving distance teaching, even if it means new — even revolutionary — methods. Efficiency is the watch word. 'Unisa's method of distance-teaching is now developed and its implementation has to a great extent, been refined (Haasbroek, 1986 : 12).

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who rode with a smile on a tiger
They returned from the ride
with the lady inside
And the smile on the face of the tiger.

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THE WRITTEN ASSIGNMENT - TEACHING OR EVALUATING?

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1. INTRODUCTION

According to Edström (1970:116) distance education may be defined as "... a form of teaching that combines an organized course of self-study with a two-way communication over a distance between student and teacher". The degree of the two-way communication determine, to a large extent, the success of a correspondence course (Edström, 1970:193).

The two-way communication between student and tutor in distance education is normally established on the one hand by the setting and answering of assignments, and on the other hand by the tutor's comments on these (Baath, 1980:37; Holmberg, 1982:30). According to Mackenzie (Baath, 1980:31), assignments for submission hold a central position in the Open University system of distance education. A study of Baath (1980:31) reveals that European correspondence schools, teaching at non-university levels, also regard assignments for submission as an extremely important element in their teaching. At the University of South Africa the written assignment is an integral part of the total study package of the student. Special attention should, therefore, be given to the construction and correction of assignments.

A crucial question in this regard is: What is the function of the written assignment - to teach or to evaluate? The answer to this question will determine to a great extent, inter alia, the type of assignment set, the way in which it is set, and the feedback from the tutor.

2. THE FUNCTIONS OF THE WRITTEN ASSIGNMENT

Students often experience the assignment merely as a form of evaluation. When receiving back their assignments their attention is not in the first

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place attracted by the corrections and comments, but by the marks awarded (Van Hulst, 1968:86). The lecturer on the other hand often sees the assignment only as an instrument to determine which students should be admitted to the examinations.

According to Edström (1970:196) there are at least five different elements involved in assignment correction, i.e. instruction, motivation, counselling, the forming of attitudes and assessment. Van Hulst (1968:86) emphasizes that instruction, compassion, encouragement and understanding should dominate evaluation.

The following are possible functions of written assignments, according to rankings made by European correspondence schools and the Open University (Baath, 1980:37) :

	Functions	Rank points
1)	To give the students effective feedback - help them to correct their mistakes and control their progress	91
2)	To motivate the students, owing to the fact that the assignments for submission serve as sub-goals	58
3)	To make it possible for the school to evaluate the students' achievements during the course, in order to be able to give each student help ("formative evaluation")	49
4)	To give the instructor/tutor opportunity to motivate the students by giving them encouragement, praise, etc.	38
5)	To activate the students	37
6)	To give the students opportunities for application and transfer of their knowledge	37

	Functions	Rank points
7)	To make it possible for the school to evaluate the students' achievements and mark their solutions, in order to be able to give them certificates at the end of the study ("summative evaluation")	33
8)	To give the school feedback - help it to find out how well its instruction works and in what ways the material should be revised	32
9)	To create opportunities for contact between students and school, in order to counteract students' feelings of isolation	30
10)	To give the students opportunities for survey, summing up and integrating various parts of the unit (or different parts of the course)	26
11)	To focus the students' attention on important learning objectives	14
12)	To serve as a means for the students to revise the whole study unit	10
13)	To teach in such a fashion that knowledge is retained, through practice in writing	5
14)	Sent according to schedule, to compel the students to regular work	5

An analysis of this table shows that assignments apparently fulfil a considerable number of functions. Nevertheless, the respondents to the questionnaire tend to emphasise the following two groups of functions:

1) feedback to students (nr. 1) and "formative evaluation" to give each student help during the course (nr. 3); and

2) motivational functions (nr. 2 + 4).

The analysis of the table further reveals that most of the functions can in general be classified in the category "teaching function", whilst only one refers to summative evaluation (nr. 7).

It is important at this point to emphasize that, although we distinguish between teaching and evaluation, there is a close relationship between them. One cannot really teach without evaluating, but one can evaluate without necessarily be teaching. Evaluation should thus always be seen as a teaching instrument.

From the aforementioned it can be concluded that the function of the written assignment in distance education is primarily that of teaching. Many other functions of the written assignment can be mentioned to substantiate this conclusion, such as the following (cf. Van den Bogaerde, 1985:83) :

- To transfer specific knowledge to the student.
- To focus the student's attention on important components of the subject matter and the relationships between the various components.
- To help the student plan his study programme.
- To give the student practice in the writing of a scientific article with regard to such aspects as the formulation and analysis of problems, interpretation, exposition, references, etc.
- To prepare the student for the examination.

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3. IMPLICATIONS FOR THE SETTING AND CORRECTION OF ASSIGNMENTS

3.1 Setting of assignments

To fully realize the teaching function of the written assignment, the following guidelines should be carefully considered when setting the assignment:

- It should be related to the teaching objectives.
- It should guide the student to plan and systematize his study.
- It should help the student to identify the important components of the subject matter and to discover the relationships between the components.
- It should stimulate creative thought and give students opportunity to work on their own - especially in post-graduate courses.
- When setting an assignment the teaching principles should be taken into account.

3.2 The correction of assignments

The two way communication that is really the backbone of distance education is primarily the tutor's responsibility (Holmberg, 1982:39). The individual student in distance education cannot, in many instances, make a comparison with his fellow students or ask the teacher through direct contact. He must, therefore, be given a great deal of help as regards feedback (Holmberg, 1982:79). The tutor responsible for correcting the assignments plays a vital part in this regard.

In a study Grahm (Baath, 1980:39) found that students considered assignments for submission per se to be the most stimulating and inspiring component of correspondence courses, whereas the tutor's corrections and comments on the same assignments are ranked as the least stimulating and inspiring element!

It is, therefore, important to pay special attention to this task of the tutor in distance education.

Lewis (1981:37) indicates the following functions served by tutorial comments on student's work :

- To communicate with the student.
- To convey warmth, sympathy and support.
- To build the student's confidence.
- To create and sustain a personal relationship.
- To reinforce the student's strength.
- To create a written dialogue.
- To diagnose weaknesses and to suggest how the student can overcome these.
- To clarify standards of performance needed.
- To give the student a clear idea of how far he is succeeding in meeting course objectives.
- To explain a subject's conventions and to show the student the reasons for them.
- To refer the student to parts of the course material.
- To look back at past work and ahead at what is to come.

The following guidelines for the correction of assignments may be of some help to realize the teaching function of the written assignment :

- The purpose of correcting the assignment is to communicate with the student.

- Comments should be given in full.

- Comments should be constructive and not destructive.

- The comments, and not the mark given, should enable the student to determine his academic progress. The question arises: Should a mark be given at all since it emphasizes the evaluation function and not the teaching function of the assignment. The allocation of an examination credit might be adequate.

- The correcting of assignments should be individualized and personalized. The teacher should not standardize his treatment of an assignment. Every answer should be regarded as a new answer demanding individual help and attention. (Edström, 1970:203).

- Never use red ink, but mark in pencil - it helps to keep the comments personal and informal.

- Do not overdo corrections. Find something positive in the student's work and reinforce this.

- Remedial teaching is part of the task of correcting assignments.

One of the driving forces in distance teaching is the encouragement of the student's will to undertake the intellectual adventure of study. "It is one of the marks of a good correspondence teacher that he or she corrects and comments on an assignment so that the student experiences the challenges of his shortcomings more than the frustration of his mistakes". (Edström, 1970:207).

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EVALUATION OF STUDENT PROGRESS IN DISTANCE EDUCATION

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1. INTRODUCTION

A report prepared by prof A J H van der Walt in 1945 indicated a new direction in tertiary education and initiated the adoption by the University of South Africa (UNISA) of the concept of correspondence or distance education (Boucher 1973:218). This led to the institution of this teaching concept by law and gave a mandate to UNISA to establish a division for external studies in 1946. In 1947 students enrolled for the first time to this new concept in tertiary university education (Van As 1985:223; prof Willem Kleynhans, pers. comm.).

It is fair to state categorically that UNISA is indeed a pioneer in the field of distance education as other similar institutions such as the British Open University, the German Fernuniversität, the Israeli Everman's University and the Spanish Universidad Nacional de Educación a Distancia (UNED) and others were established only during the late nineteen sixties and early seventies (Holmberg 1981:35).

With the inauguration of the division for external studies in 1947, 1 250 students enrolled at UNISA and in 1987, 40 years later, approximately 91 000 students were registered for various courses. This indicates a growing need for distance education in the RSA and may also reflect on the success and high standing of UNISA as an institution for distance education.

2. THE AIM OF THE PAPER

The aim of the present paper is to:

* Illustrate the relationship of **evaluation** with other teaching components in a didactic structure in university education

* Indicate the importance of **evaluation** as an indicator of student progress

* Identify some problems associated with evaluation in distance education

* Offer possible guidelines and problemsolving strategies in the evaluation of distance education

* Make some suggestions which may be considered for further investigations.

3. THE BACKGROUND TO THE PAPER

University lecturers are usually thoroughly trained and educated in the science, methodology and research in a particular scientific discipline. It is also true however, that the majority of university lecturers are not initially trained professionally in the sience, skills and didactics of university education. This is even more so in the case of distance education.

At UNISA the Bureau for Teaching Development attempts to correct this deficiency by offering various opportunities for staff development through organized seminars and publications of relevant research. Unfortunately a large number of staff members do not always make use of these opportunities.

Many papers at this conference deal with the teaching of specific disciplines and focus primarily on smaller teaching units. It is therefore possible that one could loose perspective on the complexity of university education, especially in the distance education environment. For this reason it was decided to offer as an introduction a brief and concise theoretical frame of reference to illustrate the possible relationships of the various didactical components (all variables) in university education. This underlying theory could enable one to relate and substantiate any discussion on the didactics of distance education.

4. A MACROSTRUCTURE OF THE DIDACTICS OF UNIVERSITY EDUCATION

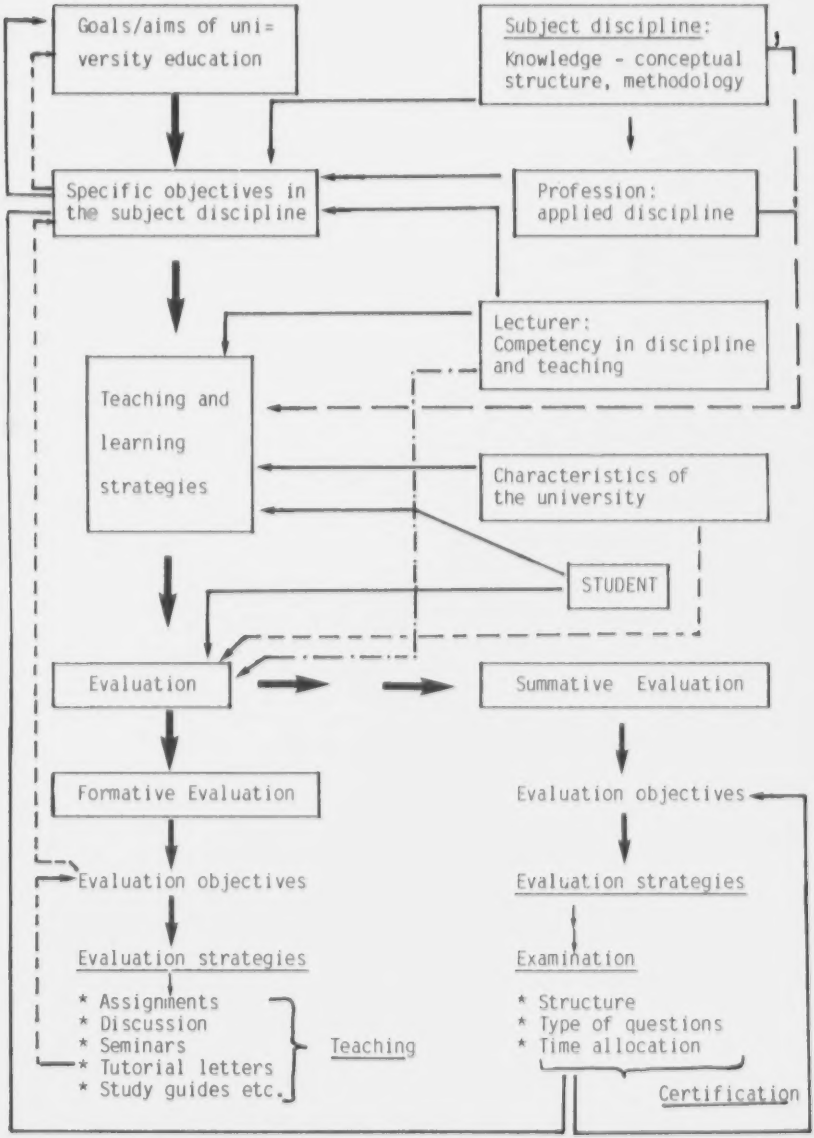
An attempt was made to draw up a schematic presentation (figure 1, page 4) to illustrate the possible relationships of various didactical components. (See also: De Corte's instructional science model within the realm of higher education in Behr, 1980:20.)

4.1 TEACHING OBJECTIVES

It is important to select and formulate specific and precise teaching and learning objectives in the teaching of any discipline. In doing this, the aims of university education (Behr 1980:6-8; Degenaar 1987), the unique content and conceptual structures, the methodology of a discipline as well as the needs, guidelines and requirements of the profession and professional councils of the related profession should be integrated in a balanced way to formulate realistic and achievable objectives. The contribution and objectives of these mentioned aspects should be understood.

The competency of the university lecturer in the science of his discipline as well as his didactical skills, teaching experience, teaching style and philosophy also play an important

FIGURE 1: A macro-structure to illustrate the relationship between different didactical components in university education



role in the selection of objectives.

It is of great importance to have clearly defined aims and objectives in the teaching of one's discipline as this gives a clear guideline in the planning and selection of teaching and evaluation strategies. (See also: Behr 1980:66-68.)

4.2 TEACHING AND LEARNING STRATEGIES

Teaching strategies should be selected or designed to realize one's teaching objectives.

It has already been pointed out that the specific teaching objectives assist and give guidelines in the planning of teaching strategies. It is, however, much more complex as the scientific discipline, the profession, the lecturer concerned, the specific university (traditional or distance education) as well as the students for whom the strategies are designed all contribute in some way to the design or planning of appropriate teaching strategies.

4.3 EVALUATION

The main theme of this paper is primarily concerned with the **evaluation** of student progress and more information will be provided at this stage.

To determine whether the teaching objectives were successfully realized by the strategies implemented, students' performance must be evaluated. This will indicate the success or failure of the teaching and learning activities.
Washtien (1975:37) comments as follows:

> Evaluation is the process of determining how well the objectives have been met at various stages in the course

- what principles, process and skills have been mastered and what behavioural changes have occurred as a result of the course.

It is well known that the success rate at universities are very low especially in the first year of studies and this causes great concern with university educators and educational authorities.

The target group in any evaluation strategy is also an important variable and should be considered very carefully when planning the evaluation. Evaluation is a very comprehensive and complex teaching activity and should be thoroughly studied and well understood.

Evaluation can be distinguished into **formative** and **summative** evaluation. Although this distinction is made, it should never be separated as it is two aspects of the same enterprise and must be treated as a whole.

4.3.1 Formative evaluation

This form of evaluation is more closely associated with teaching and learning and takes place while the course is **in progress**. Its purpose is to determine what learning deficiencies and problems there are so that they can be corrected before the course is over (Washtien 1975:37).

Formative evaluation takes place on an ongoing and continuing basis and provides regular feedback to the lecturer which will enable him to revise, modify and adapt his teaching strategies or reformulate his teaching objectives or emerge on remedial teaching programmes. Periodic evaluation of test results is regarded as an essential and integral part of effective teaching (Pretorius 1984:52).

Students should be kept informed of their progress in a discipline on a regular basis. This serves as a motivation and a knowledge of their progress and abilities at various stages of the course.

In distance education, teaching strategies such as the written assignment, discussion classes, telephone conversations, seminars, tutorial letters, study guides and other forms of teaching, can be regarded as those strategies which have a direct influence on the teaching and learning of students. The effect of this can be determined by formative evaluation strategies.

4.3.2 Summative evaluation

Summative evaluation comes at the end of the course. Its purpose is to measure the extent to which the objectives of the course have been met so that, if necessary, the course may be revised and improved before it is offered again (Washtien 1975:37).

The formal end-of-the-year examination is an example of summative evaluation. At UNISA the formal examination is in many courses the only method used for certification purposes, or to promote students to the following academic year. It is therefore obviously necessary to make sure that the examination covers all the areas of knowledge and skills required to realize the preset objectives of the course.

Thyne in **Principles of examining** (1974:3) makes the following statement regarding examinations:

> But while examinations assess their candidates as better and worse, in what sense can such judgement be passed on examinations themselves.

It could be reasoned that this particular form of evaluation do not necessarily have any direct influence on teaching. However, this evaluation should not be judged in isolation as it has a significant influence on teaching because the majority of teaching activities and learning is geared towards a preparation for this particular examination and the feedback provided by the examination results stimulates the re-thinking and revision of the past year's teaching programme. This could lead to the improvement and modification of the teaching programme for the next generation of students.

Evaluation is an important part of all teaching and should be administered with great care, competency, distinction and empathy. Evaluation strategies should measure what they are supposed and intended to measure, be reliable, valid and discriminate effectively. (The publication of Behr, **Teaching and learning at University**, 1980, is a useful source of information for first-time lecturers at the university. See also: Marais and Vlok, 1981:275-290 - a paper dealing with the planning of evaluation and setting multiple choice questions.)

5. METHODS

In compiling this paper various academics, experienced and skilled in distances education, were consulted. These academics were mainly teaching at UNISA, the university of VISTA and the College for Further Education in Pretoria. Most of the information were derived from their day to day teaching experienced at institutions for Distance Education. Although the facts were not empirically researched or published formally, it were still regarded as an important and reliable source of information and a valid indicator of what probably goes on in distance education. Wherever possible relevant literature and research reports and papers were consulted.

6. TARGET GROUP

The design and selection of teaching, learning and evaluation strategies is closely related to the specific target group for whom it is intended. Therefore the target group in this paper is specified as those students involved in the formal written examination, mostly undergraduate courses and post graduate diploma and honnours courses. Students enrolled for master's or doctoral studies were excluded.

The UNISA student as probably all other distance education students are on the average substantially older and possibly more mature than their counterparts at the traditional residential universities. The majority of these students are employed full time and their studies are done part time and private. Their study time is limited and it must be fitted into a schedule which must also make provision for family and community commitments as well as satisfy all the requirements of a particular profession.

These students pay for their own tuition and are highly motivated because the ultimate academic success will probably ensure better job opportunities or promotion in a present occupation.

Learning is individualized and students study at their own time and pace.

7. SOME PROBLEMS IDENTIFIED IN EVALUATION IN DISTANCE EDUCATION

A number of common problem areas have been identified, and will be listed and briefly discussed.

Various academic departments at UNISA and some lecturers deal competently in various ways with most of these problems - an

aspect which will also be mentioned briefly. A large number of papers at this conference deal exactly with this aspect and more detail will be provided at these particular venues. It is not the intention to generalize these problems as if it occur in all academic departments.

* Holmberg (1985) states clearly that the application of distance education is regrettably hampered by slow administrative handling and, above all, by lack of resources. This fact was also confirmed by some of the respondents interviewed.

  ** A distance education institution needs an effective and efficient infra-structure and a competent administration to support the academic functions and provide a smooth flow of study material and must offer well organized examination procedures.

  ** The flow of study material should take place uninterruptedly and the time lapse between student and lecturer should be minimized.

  ** The University of South Africa is well known for its very efficient administration. During 1986 approximately 700 000 written assignments flowed between student and lecturer. The time lapse is estimated between three and four weeks. The system has been well developed over a number of years and the responsible administrative department is able to manage this function without any problems.

* The financial burden of evaluation in distance education exceeds that of traditional universities by far. The total costs involved to organize and conduct the 1986 examination at UNISA for example amounted to R569 641.00 (see appendix A for more detail). The financial implica-

tion means that a semester system with two formal examinations might be too costly and at this point in time possibly not a viable prospect. This is also true of the additional administration that it would require. (See Appendix B and C for more detail on administrative activities.)

* In many cases the correlation between marks obtained for written assignments and the results of the formal examination, is very poor. If there is no correlation between marks obtained during formative evaluation and the examination results, students will have a false concept of their own abilities and their preparation for the examination may be inadequate.

* Many problems are encountered in the evaluation of courses with a high degree of practical work.

* Lecturers are not all professionally trained and competent in the teaching and evaluation of students in a distance education environment. Evaluation skills in both the formative and summative aspects need to be adequately developed.

* Many respondents claimed that sufficient time is lacking for formative evaluation and remedial work. Unlike lecturers at traditional universities, distance educators do not always receive regular feedback from students. Learning problems are identified too late and there is not enough time left for meaningful remedial work. It seems that in these cases a meaningful formative evaluation programme lacks. The distribution of assignments during the academic year is poor.

* Commentary on assignments evaluated are negative and do not assist the student's learning activities. Commentary on written assignemnt is a form of teaching and should be

informative and give appropriate guidance to improve learning. (Refer to the paper presented by M. Dreckmeyr on the written assignment as a teaching medium; see also Huisamen 1980:22.)

* Assignments cover only a small part of the total course.

* The authenticity of assignments can not be controlled and it is therefore not always a reliable reflection of a student's competency and level of progress in a discipline.
* The number of assignments in a specific course required for evaluation is not always in relation to the relative weight of a course or part of a course.

* The large number of students in specific courses makes formative evaluation very difficult and even impossible e.g. Education I students in 1987 are approximately 7 000.

8. DISCUSSION

Machine-scorable tests and assignments (Küffner 1984:38-49; Lubbe:this conference; Olivier, Le Roux & Erens:this conference) and computer-based evaluation (Boucher & Barron 1986:274) are all based on the basic didactical principles of university teaching and evaluation.

A knowledge and understanding of the basic principles of teaching and evaluation are essential and if these are not met and applied meaningfully, the use of sophisticated computer technology will probably be doomed.

The writer is of the opinion that once the basic principles are applied correctly, more sophisticated methods should be thoroughly and scientifically investigated before they are being implemented.

The following basic principles in the distance education environment should be implemented as a first priority:

8.1 FORMATIVE EVALUATION

During formative evaluation the following are important:

* The setting of appropriate assignments in accordance with the objectives and content of the course.

* More, shorter assignments of a greater variety and of lesser volume should probably be required and distributed evenly throughout the academic year.

* Assignments must be representative of the whole course.

* Students must be provided with meaningful, constructive and positive commentary on their assignments to guide them in their study efforts as well as their preparation for the final examination.

* Provide students with the necessary and appropriate feedback on a regular basis.

* Provide adequate remedial learning activities to improve student learning and competency in the discipline.

* Select appropriate and realistic teaching and evaluation strategies to meet the preset objectives.

* The unique content and conceptual structures of the discipline and the requirements of the profession.

* Develop appropriate self-assessment strategies which will enable students to monitor their own progress. (See papers presented at this conference by L R McFarlane and P J N Steyn on self-assessment strategies.)

* Ensure that there is a high correlation between formative and summative evaluation - the formative evaluation must provide an adequate preparation for summative evaluation.

8.2 SUMMATIVE EVALUATION

Examinations are controversial matters and may even have legal consequences.

In the UNISA situation where there is only one formal examination, this examination must be above any suspicion.
Examination papers should be set according to basic principles of examining so that the summative evaluation will be appropriate, reliable, valid and discriminative.

An examination paper must be compiled according to preset teaching and evaluation objectives. The paper must evaluate appropriate content, concepts and skills.

A high standard of consistent marking must be maintained for all candidates. Marking must take place according to a preset memorandum or marking guidelines. This is especially important where a team of markers are involved in the marking of the same course.

9. CONCLUSION

It is important that UNISA with its long standing experience in distance education should be on the forefront of research in the didactics and methodology of distance education. This paper supports the recommendation by Van den Bogaerde (1985) that an Institute and Documentation Centre for Distance Education be established at UNISA. Continuous integrated research on all aspects of distance education must be undertaken to keep abreast of developments in the field of this particular teaching concept.

As computer technology becomes more sophisticated, more available and probably cheaper in the future, this medium as an evaluation instrument in distance education should be investigated scientifically.

Education and formal training programmes in the science of distance education must be developed.

This paper has attempted to present a macro view of evaluation in the distance education environment. It was not intended to provide detailed information but to stress the importance of an awareness of the complexity and comprehensiveness of evaluation and to indicate the interrelationships of various variable aspects of the didactics of distance education.

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APPENDIX A

FINANCIAL IMPLICATIONS OF THE OCTOBER-NOVEMBER EXAMINATIONS AT UNISA (1986)

*	Renting of examination centres (406)	R 173 025
*	Invigilators employed	R 331 121
*	Postage	R 32 000
*	Printing of papers/examination books	R 33 495
	Total:	R569 641

APPENDIX B

STUDENTS PARTICIPATING IN THE OCTOBER-NOVEMBER EXAMINATIONS

*	Students	65 284
*	Examination centres	406
*	Number of examination papers	1 244
*	Processing of individual subject results	204 745

APPENDIX C

ADMINISTRATIVE ACTIVITIES CARRIED OUT BY ADMINISTRATIVE STAFF INVOLVED IN HANDLING THE MARKING OF SCRIPTS

* Check scripts received from examination centrums and control whether students were officially granted examination entry.
* Check scripts distributed to lecturers for marking and check again when marked scripts are returned.
* Check whether marks of each question were transferred correctly to front of examination book.
* Check if all questions were marked.
* Check correct totalling of each script.
* Check if marks were transferred correctly to mark sheet.
* Make sure that the correct marks were entered into the computer against the correct student name.

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THE TRAINING OF LECTURERS BY UNISA

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1. INTRODUCTION : THE NEED FOR TRAINING

Faculty development has become a household word in tertiary teaching institutions in the RSA and abroad (this year the 13th world conference on the Improvement of University Teaching will be held in Haifra, Israel). There is at present growing consensus between instructional scientists, psychologists and communication scientists that the didactical knowledge and skills are not in direct relation to the quality and quantity of the lecturer's academic (subject) knowledge. Subject expertise and instructional expertise do not necessarily correlate.

The traditional tertiary teaching-learning situation of the "ivory tower" university of years ago has changed drastically with the rise of the "democractic" university and the differentiation of tertiary teaching institutions. Instructional scientists point out that the abovementioned changes and developments require that lecturers employ more specialised didactical skills and that there is a keener awareness of the fact that the teaching of content includes more than mere academic expertise.

2. THE PRESENT COURSES

The introduction, in 1975, of a formal course in tertiary education (D.T.E.) and in 1982 of the H.E.D. must be seen against the background of the needs mentioned above. These courses were introduced in response to requests by certain tertiary institutions that a formal qualification in instructional science be created. (Vide annexures A and B).

These courses are presently under revision because of the new demands of the andragogical didactical situation and more specifically due to the developments in distance teaching. Prof. T. van Wijk, the rector of Unisa, quotes the President of the University of Notre Dame in this connection :

"If someone were to ask me what is the most important point for all of us to grasp in higher education today, I would say that there is not one future, but many. Each of us must find his own. It will lie in the uniqueness of each institution ....".

He argues that the new information and communication technologies "will transform the classroom and the campus" and that the "students will be attending fewer lectures and working more independantly" (Unisa Bulletin, February, 1986).

The curriculum development of the courses in instructional science at Unisa must be viewed against this background. The new curriculum (Vide annexure C) for the D.T.E. (B.T.Ed.) stresses the concept of "Andragogics" - the accompaniment of the adult. The curriculum acknowledges the independence of Andragogics and the question is whether curriculum development as suggested will meet the demands of the contemporary didactical situation and the needs of the lecturer as a adult learner.

3. THE NEEDS OF THE LECTURER/ADULT LEARNER

The frame of reference of the lecturer is an important veriable in the andragogical-didactical situation. The senior student's disposition or set, his feelings linked to past experience, his knowledge accumulated from the past, his sense of parity with his teacher, his sense of antonomy, his resistance to learning, his capacity for generalization and application of learning, his capacity for self-directed learning, etc. are contributing factors to the functioning of the other components of the didactical situation.

These and other factors have an influence on curriculum design and development.

4. THE PROBLEM OF STRUCTURE AND CONTENT

4.1 An awareness of the necessity of continuous course/curriculum development has led to the design of a new curriculum for the D.T.E. (B.T.Ed.).

The new course (Vide annexure C) is an attempt to eliminate the weaknesses of the existing model of training lecturers and it addresses the problem of rigid "packaging".

4.2 By "package" we refer to the idea that knowledge is perceived as being a well-defined commodity which is external to the individual student and that the role of the student in relation to this package (structure and content) is limited.

It is necessary to point out the implications of a too rigid teaching-learning situation.

If "packaging" is too rigid a fairly homogeneous student group is assumed. This implies that individual differences between the didactic situations of the students pursuing the specific course are minimised and that their similarities are emphasised. Differences in motivation (needs) and expectations of each student are de-emphasised because packaged knowledge is external to the student. Packages also have in-buildt classification (evaluation) mechanisms which permit students to be graded as successful/unsuccessful according to the terms determined by the package and which classify the knowledge which the student brings to his/her learning as being valid/invalid.

What we have posed here as a constraint in designing and introducing a relevant course in lecturer training is the perspective that the structures within which university lecturers are operating are highly professionalised and bound by traditions and role expectations. Thus the lecturer or his discipline/department becomes the object through which packaged knowledge is presented. To initiate new packages or to alter existing packages radically is significantly restricted by conventions about forms of knowledge deemed to

be valid and the maintenance of boundaries between different subject areas established over a considerable period of time. The educational background of university lecturers also reinforce this conservatism. In addition, the teaching of subjects across discipline boundaries is made difficult by increasing emphazis upon specialisation, which the packaging of knowledge has imposed.

5. GUIDELINES FOR DEVELOPING A RELEVANT CURRICULUM

5.1 In specifying the curriculum, relevant packaging should not be one sided. The must-know(a), should-know(b) and good-to-know(c) areas of a discipline should be negotiable. Lateral learning (thinking) should be promoted even if this should mean crossing traditional subject borders. It is important to realize that the constituent elements of the andragogical-didactical situation have an internal logic and coherence.

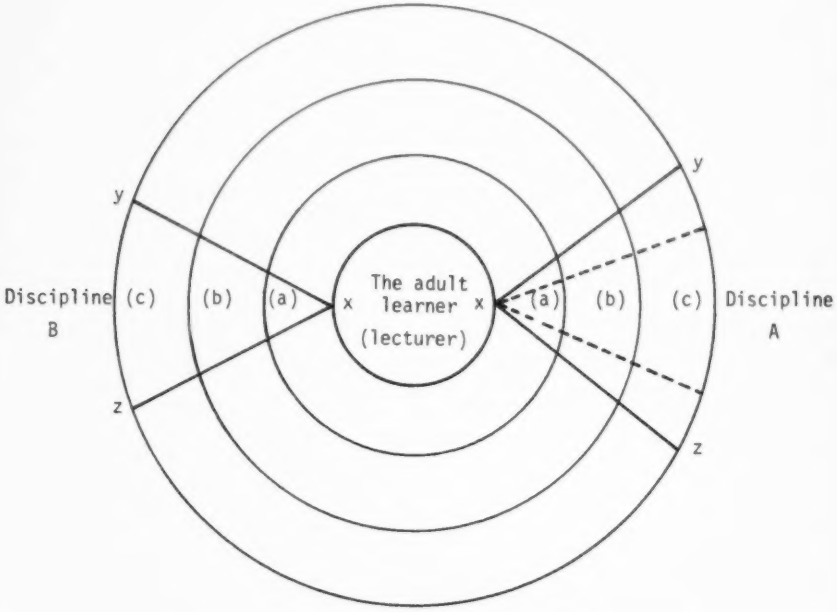

DIAGRAMME 1 : THE CURRICULUM

Relevant packaging of discipline (x, y, z) should be determined by the realities of the particular student (adult learner) in his didactical context (Vide diagramme 1). For example knowledge evaluated by the lecturer as belonging to level (c) may be regarded by the specific student as (a)-level material. Pursuing relevant structure and content requires a gestalt/holistic approach as well as a democratic qualitative and quantitative specification of content (knowledge).

5.2 A meaningful (= relevant) curriculum (course, syllabus and learning units) which accommodates the adult learner (= lecturer) requires a negotiated curriculum - an individual contract between lecturer (supervisor) and student. It is important to remember that in Andragogics the accent is on learning, not teaching. The parties to the negotiated curriculum, lecturer-supervisor and lecturer-student, should be close partners in identifying the learning resources, determining the individual packaging and types of evaluation.

6. CONCLUSION

The suggested course for the B.T.Ed. has elements on the macro-level of the supermarket curriculum model (thus including the process and research models of designing a curriculum). There are competing products (= disciplines/modules) on the shelves and the lecturer-student has a choice. If the lecturer-supervisor adopts some of the guide lines suggested in this paper it may promote the meaningfulness and popularity of lecturer training. The supermarket model should become more effective on the meso-level (syllabus) and particularly on the micro-level (= learning units/"pericopes").

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ANNEXURE A

DIPLOMA IN TERTIARY EDUCATION - DTE

N.B. This is not a general teaching diploma. It entails advanced study in tertiary education and may provide admission to MEd study in Andragogics.

ADMISSION

(1) To be registered as a candidate for the DTE a student must hold at least a bachelor's degree; provided that a student who is a member of the supplementary health service personnel and who requires an endorsement on his diploma, indicating the field of specialisation in paper 5, must hold an appropriate degree and be registered with the South African Medical and Dental Council.

N.B. If the Student did not obtain his bachelor's degree at this University, an original transcript of his complete academic record, issued by the REGISTRAR of the university concerned, must accompany his FIRST application for registration. Original proof that the student is a member of the supplementary health service personnel and of his registration with the South African Medical and Dental Council must, if applicable, also be submitted.

(2) The completion of the diploma will be subject to the submission of original evidence of at least two years' appropriate lecturing experience in an institution providing training at tertiary level.

DURATION OF STUDY

(1) The DTE cannot be completed in under ONE YEAR.

(2) A student who is registered for the DTE, may also register in the same academic year for one undergraduate course or the corresponding number of modules on the same level for non-degree purposes (NDP), provided that the NDP course/module(s) has a bearing on the studies for the DTE or the student submits a justification which is acceptable to the University.

CURRICULUM

N.B. The paper codes which appear in brackets after the names of the papers concerned, must be indicated on the registration form.

The curriculum comprises six papers:

Paper 1 : Principles of education at tertiary level.
Paper 2 : General didactics
Paper 3 : Education at tertiary level in time perspective.
OR
Paper 4 : Teaching technology in time perspective.
Paper 5 : Special didactics; comprising an article which makes provision for specialisation.
Paper 6 : Research techniques and methods.
Paper 7 : Student and vocational guidance
OR
Paper 8 : Empirical Education

COMPLETION OF THE CURRICULUM

(1) Papers may be written separately or concurrently. Note that a student who has not passed any papers must register for at least papers 1 and 2.

(2)(a) A student must enrol and pay the prescribed fees for the diploma every year.

(b) Re-registration is annually subject to the recommendation of the department. Such re-registration may be refused in any year as a result of unsatisfactory progress. Except with the special permission of the Senate a student must complete the diploma within three years. A student who desires an extension or wishes to defer his studies at any stage must submit a motivated application beforehand.

EXAMINATION, RECOGNITION OF PAPERS PASSED AND PASS WITH DISTINCTION

(1) The examination takes place in January/February.

(2) A candidate receive credit for each paper he passes.

(3)(a) All the papers may be passed with distinction. A candidate shall pass a paper with distinction if he obtains at least 75% in the paper concerned.

(b) A candidate shall be awarded the diploma with distinction if he obtains an average of at least 75% in the six papers combined.

(4) No supplementary examinations are granted.

ANNEXURE B

HIGHER EDUCATION DIPLOMA (TECHNICAL) (ENDORSEMENT RADIOGRAPHY, OCCUPATIONAL THERAPY, PHYSIOTHERAPY, ETC.) - HED (Technical)(SHS)

N.B. (i) This diploma is not recognised for employment purposes in a primary or a secondary school.

(ii) Radiographers who obtain the Diploma with the endorsement Radiography, may have the qualification registered against their names as an additional qualification by the South African Medical and Dental Council.

ADMISSION

(1) To be registered as a candidate for the HED (Technical)(SHS), a student must be a member of the supplementary health service personnel, hold an appropriate degree or diploma and be registered with the South African Medical and Dental Council.

N.B. The following documents must accompany the student's FIRST application for registration:

(a) an original transcript of his academic record for his bachelor's degree (if not obtained at this University), issued by the REGISTRAR of the university concerned or original proof that he has completed an appropriate diploma; and

(b) original proof that he is a member of the supplementary health service personnel and of his registration with the South African Medical and Dental Council.

(2) The completion of the diploma will be subject to the submission of original evidence of at least two years' appropriate lecturing experience in an institution providing training at tertiary level.

DURATION OF STUDY

Except with the special permission of Senate the HED (Technical)(SHS) cannot be completed in under TWO YEARS.

CURRICULUM

N.B. The Course codes which appear in brackets after the courses concerned, must be indicated on the registration form.

The courses are as follows:

(a) Fundamental Pedagogics
(b) Empirical Education
(c) History of Education
(d) General Didactics
(e) Student and Vocational Guidance
(f) Special Didactics; comprising an article which is directly related to the student's field of specialisation.

COMPLETION OF THE CURRICULUM

The courses must be taken as follows:

(1) if a student has not passed any courses, he must register for at least two of, but preferably, for all the courses (a) to (d);

(2) course (f) may be taken only if course (d) has already been passed or is taken concurrently.

EXAMINATION, CREDIT FOR COURSES PASSED AND DISTINCTION

(1) The examination takes place in October/November.

(2) A candidate receives credit for each course passed.

(3)(a) Courses (a) to (f) may be passed with distinction. A candidate shall pass a course with distinction if he obtains at least 75% in the course concerned.

(b) A candidate shall be awarded the diploma with distinction if he obtains an average of at least 75% in courses (a) to (f) combined.

ANNEXURE C

B.T.Ed. (Bachelor in Tertiary Education)

Suggested modules

Fundamental Andragogics	C
Andragogical Didactics	C
Empirical Andragogics	C
Time oriented Andragogics	C
Educational Management	C
Research methods and Techniques	C
Media Science	O
Research Article	O
Distance Teaching	O
Career Development	O
Ortho-andragogics	O

C : Compulsary
O : Opsional

COMPILERS

Professor David Adey and Staff
Bureau for Teaching Development
University of South Africa

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